Mrs Angie Motshekga,
Minister of Basic
Education

Mr Enver Surty,
Deputy Minister
of Basic Education

These workbooks have been developed for the children of South Africa under the leadership of the Minister of Basic Education, Mrs Angie Motshekga, and the Deputy Minister of Basic Education, Mr Enver Surty.

The Rainbow Workbooks form part of the Department of Basic Education's range of interventions aimed at improving the performance of South African learners in the first six grades. As one of the priorities of the Government's Plan of Action, this project has been made possible by the generous funding of the National Treasury. This has enabled the Department to make these workbooks, in all the official languages, available at no cost.

We hope that teachers will find these workbooks useful in their everyday teaching and in ensuring that their learners cover the curriculum. We have taken care to guide the teacher through each of the activities by the inclusion of icons that indicate what it is that the learner should do.

We sincerely hope that children will enjoy working through the book as they grow and learn, and that you, the teacher, will share their pleasure.

We wish you and your learners every success in using these workbooks.

ISBN 978-1-4315-0026-0

Rainbow
WORKBOOKS

MATHEMATICS IN ENGLISH
GRADE 5 – BOOK 1
TERMS 1 & 2
ISBN 978-1-4315-0026-0

THIS BOOK MAY NOT BE SOLD.

1 2 3 4

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MATHEMATICS IN ENGLISH – Grade 5 Book 1

ISBN 978-1-4315-0026-0

Grade 5

Name:

Class:

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICS IN ENGLISH

Book 1
Terms 1&2

Contents

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4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
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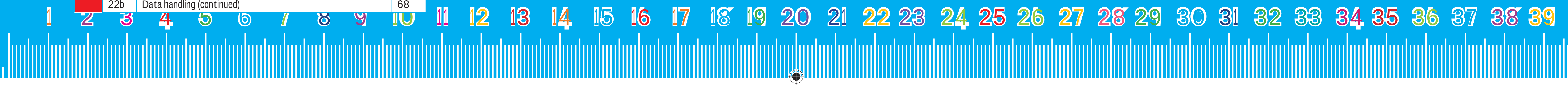
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100



Rainbow
WORKBOOKS

Grade 5

Mathematics

ENGLISH

Book 1

1 Revision worksheets:R1 to R16
Key concepts from Grade 4

2 Worksheets:1 to 64

Book 2

3 Worksheets:65 to 144

Name:

The structure of a worksheet

Worksheet number
(Revision R1 to R16,
Ordinary 1 to 144)

Worksheet title

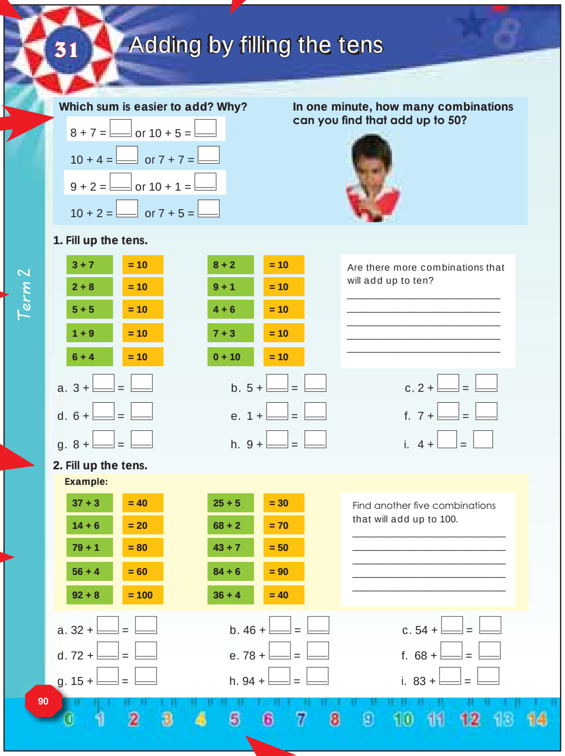
Topic introduction
(Text and pictures to help you think about and discuss the topic of the worksheet.)

Term indicator
(There are forty worksheets per term.)

Questions

Colour code for content area

Content	Side bar colour
Revision	Purple
Number	Turquoise
Patterns and functions (algebra)	Electric blue
Space and shape (geometry)	Orange
Measurement	Green
Data handling	Red



31 Adding by filling the tens

Which sum is easier to add? Why?

8 + 7 = ☐ or 10 + 5 = ☐
10 + 4 = ☐ or 7 + 7 = ☐
9 + 2 = ☐ or 10 + 1 = ☐
10 + 2 = ☐ or 7 + 5 = ☐

In one minute, how many combinations can you find that add up to 50?

Term 2

1. Fill up the tens.

3 + 7	= 10	8 + 2	= 10
2 + 8	= 10	9 + 1	= 10
5 + 5	= 10	4 + 6	= 10
1 + 9	= 10	7 + 3	= 10
6 + 4	= 10	0 + 10	= 10

Are there more combinations that will add up to ten?

a. 3 + ☐ = ☐
b. 5 + ☐ = ☐
c. 2 + ☐ = ☐
d. 6 + ☐ = ☐
e. 1 + ☐ = ☐
f. 7 + ☐ = ☐
g. 8 + ☐ = ☐
h. 9 + ☐ = ☐
i. 4 + ☐ = ☐

2. Fill up the tens.

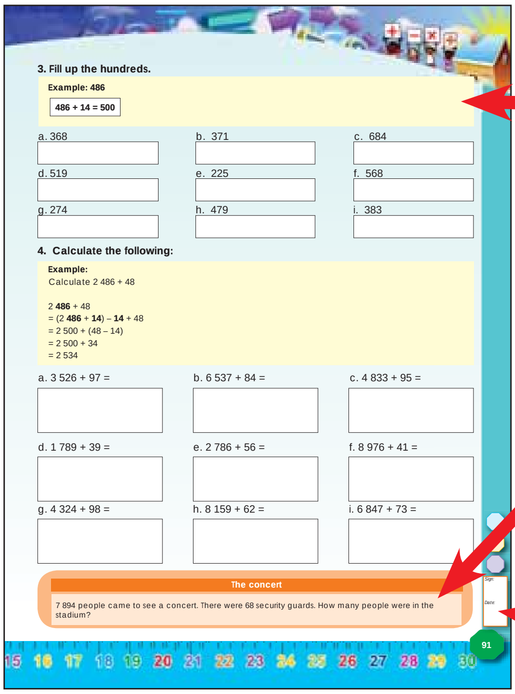
Example:

37 + 3	= 40	25 + 5	= 30
14 + 6	= 20	68 + 2	= 70
79 + 1	= 80	43 + 7	= 50
56 + 4	= 60	84 + 6	= 90
92 + 8	= 100	36 + 4	= 40

Find another five combinations that will add up to 100.

a. 32 + ☐ = ☐
b. 46 + ☐ = ☐
c. 54 + ☐ = ☐
d. 72 + ☐ = ☐
e. 78 + ☐ = ☐
f. 68 + ☐ = ☐
g. 15 + ☐ = ☐
h. 94 + ☐ = ☐
i. 83 + ☐ = ☐

Language colour code:
Afrikaans (Red), English (Blue)



3. Fill up the hundreds.

Example: 486

486 + 14 = 500

a. 368
b. 371
c. 684
d. 519
e. 225
f. 568
g. 274
h. 479
i. 383

4. Calculate the following:

Example:
Calculate 2 486 + 48

2 **486** + 48
= (2 **486** + **14**) – **14** + 48
= 2 500 + (48 – 14)
= 2 500 + 34
= 2 534

a. 3 526 + 97 =
b. 6 537 + 84 =
c. 4 833 + 95 =
d. 1 789 + 39 =
e. 2 786 + 56 =
f. 8 976 + 41 =
g. 4 324 + 98 =
h. 8 159 + 62 =
i. 6 847 + 73 =

The concert

7 894 people came to see a concert. There were 68 security guards. How many people were in the stadium?

Sign:
Date:

Example frame (in yellow)

Fun/challenge/problem solving activity
(This is an end of worksheet activity that may include fun or challenging activities that can also be shared with parents or brothers and sisters at home.)

Teacher assessment rating, signature and date

Rainbow
WORKBOOKS

Grade 5

Mathematics

PART
1

Revision

Key concepts from Grade 4

WORKSHEETS R1 TO R16

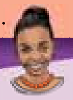
Name:

ENGLISH
Book 1

R1a

Base Ten Counting

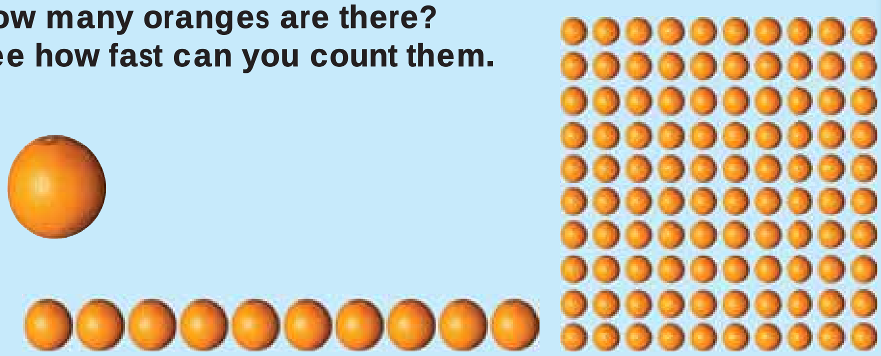
Note that the first 16 worksheets will be revision activities.



Revision

Term 1

How many oranges are there?
See how fast can you count them.

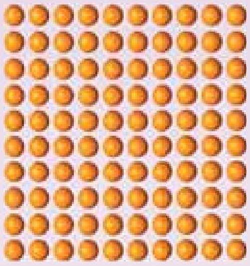


Do not count the individual oranges. Count them as groups.

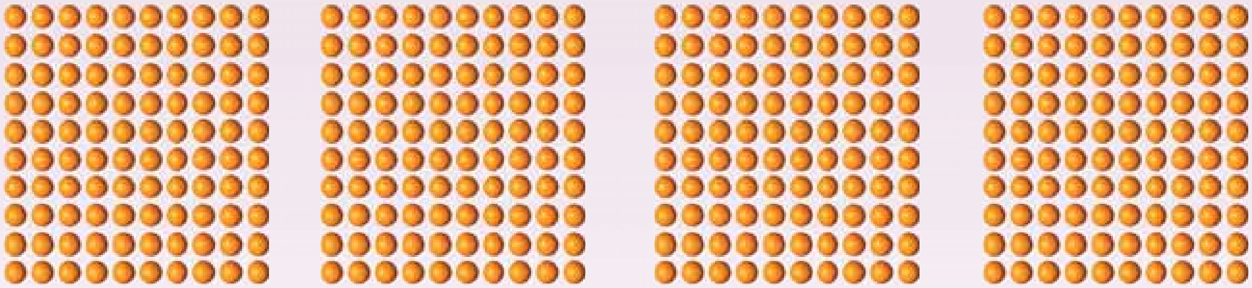
1. **Count the oranges.**

a.

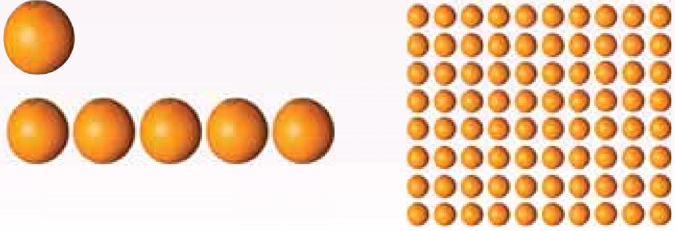
b.



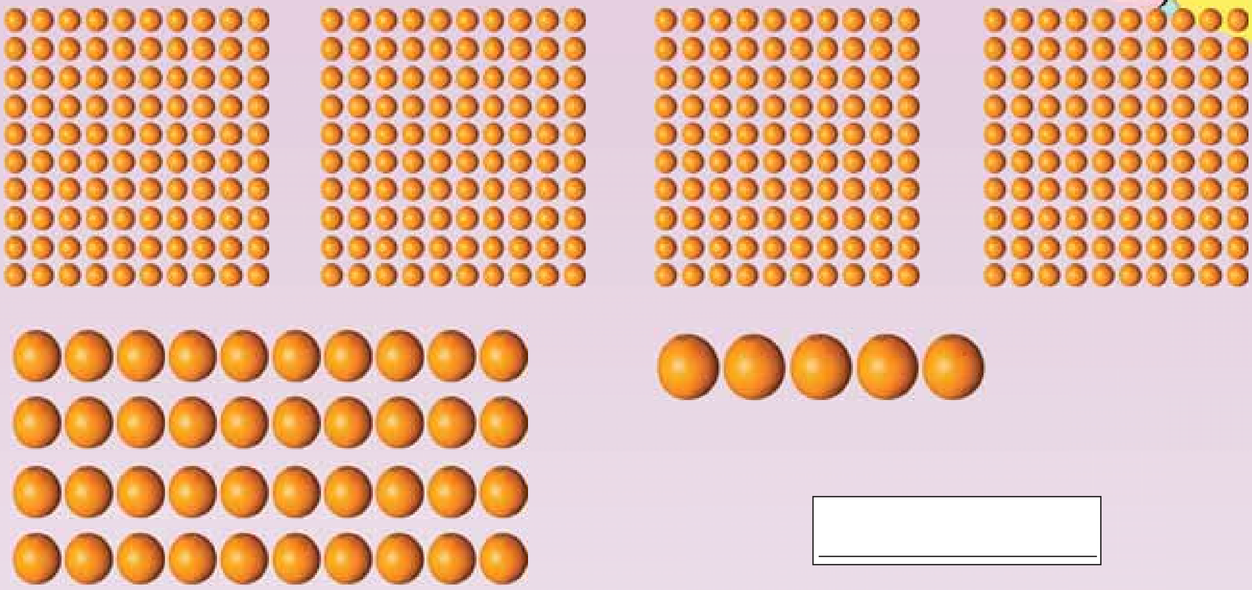
c.



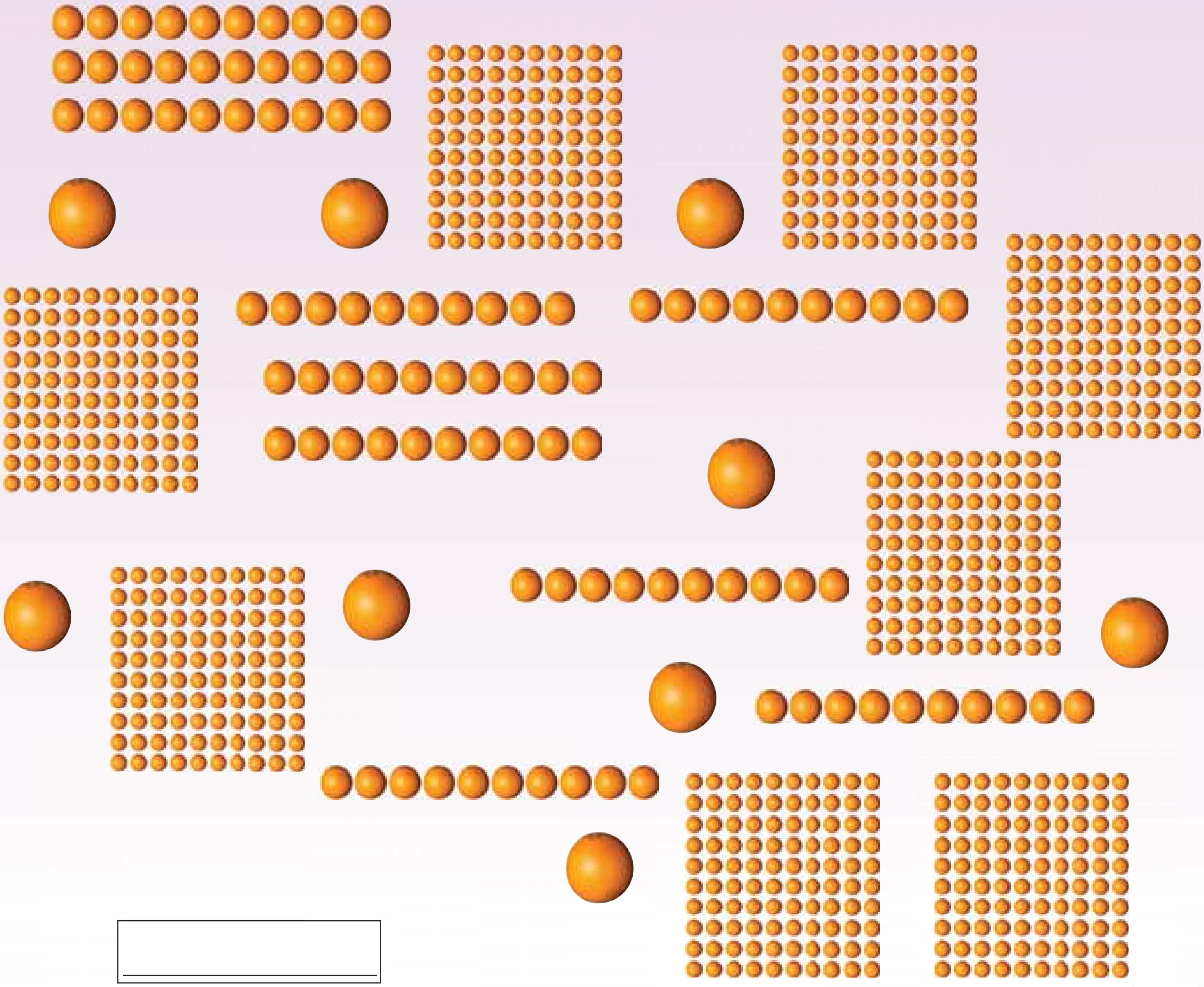
d.



e.



f.



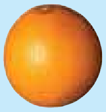
Sign:

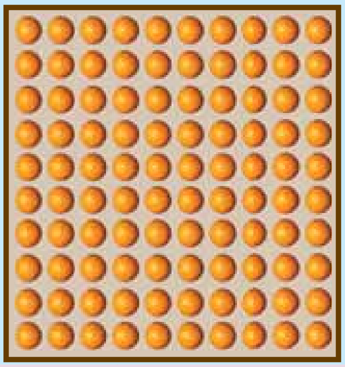
Date:

continued ☛

R1b Base Ten Counting continued

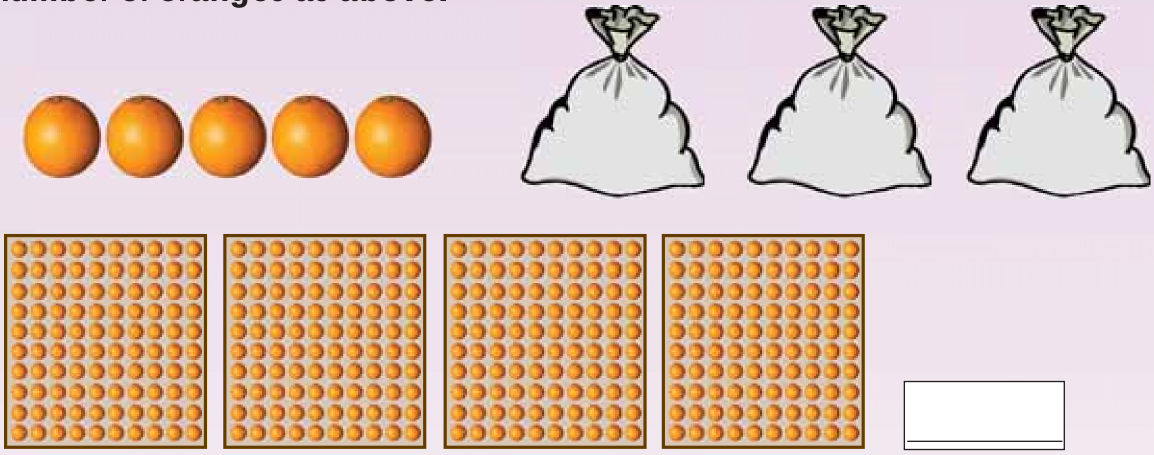
How many oranges are there?



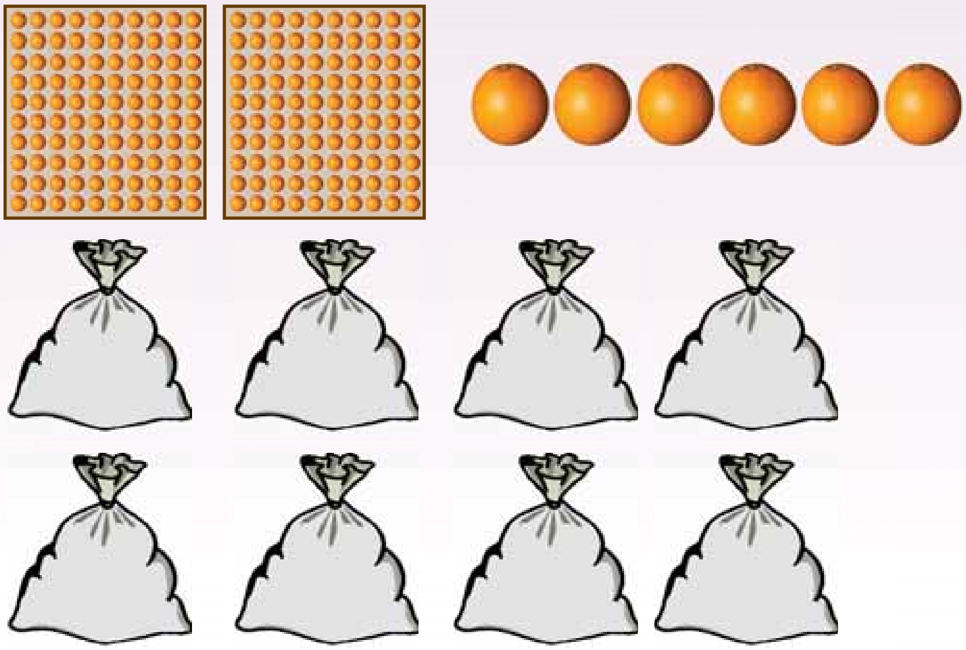


2. Count the total of all these oranges. The bags and boxes have the same number of oranges as above.

a.

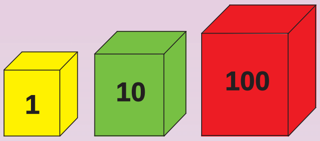


b.

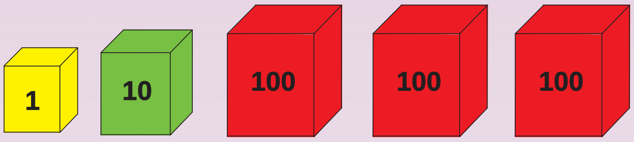


3. **Each box shows the total number of objects inside each box. Write down the total number of objects.**

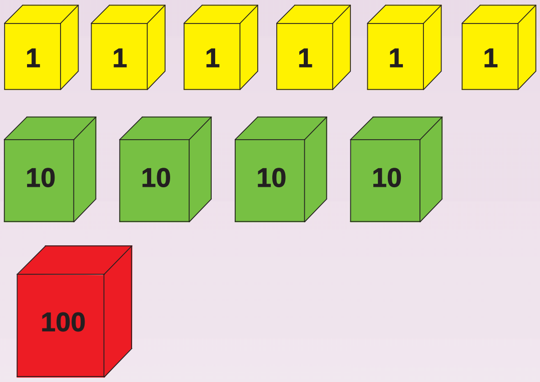
a.



b.

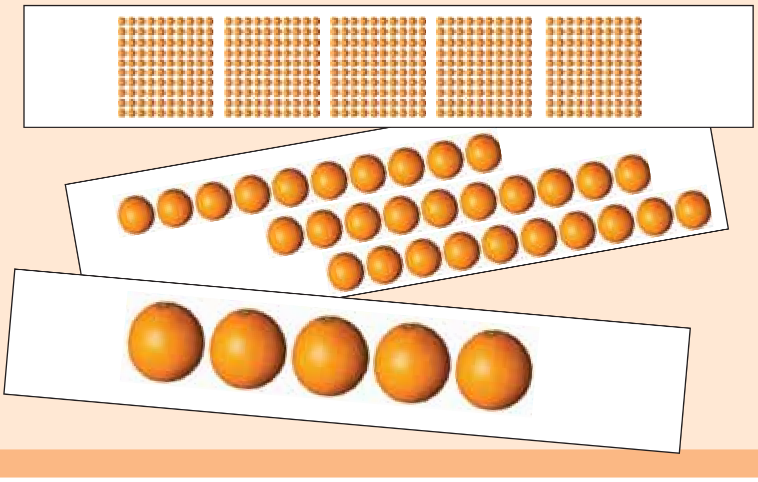


c



How quick are you?

What you need:
Cut–out 1.



What to do:

- Play in pairs.
- Cut–out the cards from the back of your book.
- Place them face down on your desk.
- You choose five cards and your partner chooses five.
- Turn them over at the same time.
- See who can give the total the quickest.
- Check your partner's answer.
- Do the same using 6, then 7, 8, 9 and 10 cards.
- The person with the most correct answers is the winner.

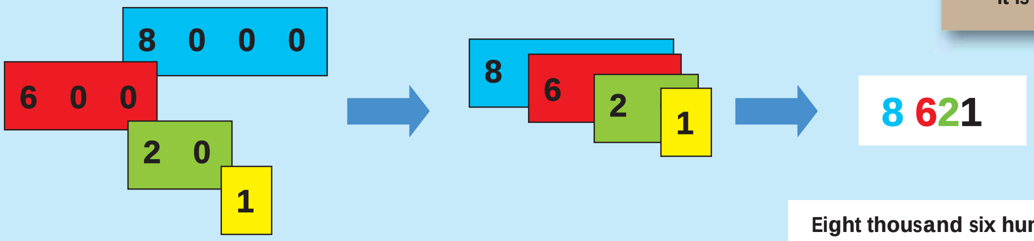
Sign:

Date:

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

R2a Numbers 0 – 10 000

What number will these cards make?



In digits it is

Eight thousand six hundred and twenty-one

In words it is

1. Complete the following and also write your answers in words:

a. 3 0 0 + 4 0 = 3 4 0

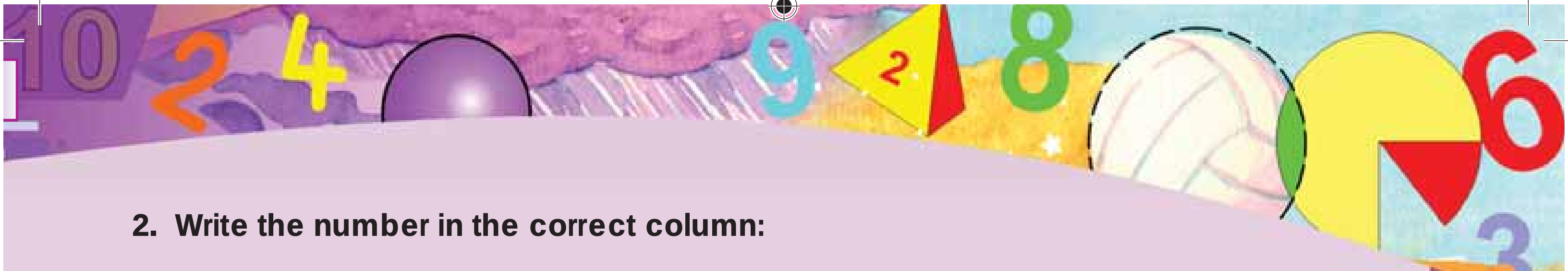
three hundred and forty

b. 7 0 0 + 8 =

c. 3 0 0 0 + 1 0 0 + 4 0 =

d. 9 0 0 0 + 6 0 + 7 =

e. 6 0 0 0 + 9 =



2. Write the number in the correct column:

		Thousands	Hundreds	Tens	Units
a.	387		3	8	7
b.	704				
c.	4 205				
d.	8 390				
e.	4 100				

3. Complete the following as in the example:

723 = 7 hundreds + 2 tens + 3 units

a. 678 = ____________________

b. 5 021 = ____________________

c. 7 804 = ____________________

d. 6 300 = ____________________

Sign:

Date:

continued ☛

Numbers 0 – 10 000 continued

4. Look at the first example (a).
Now write the other numbers in expanded notation.

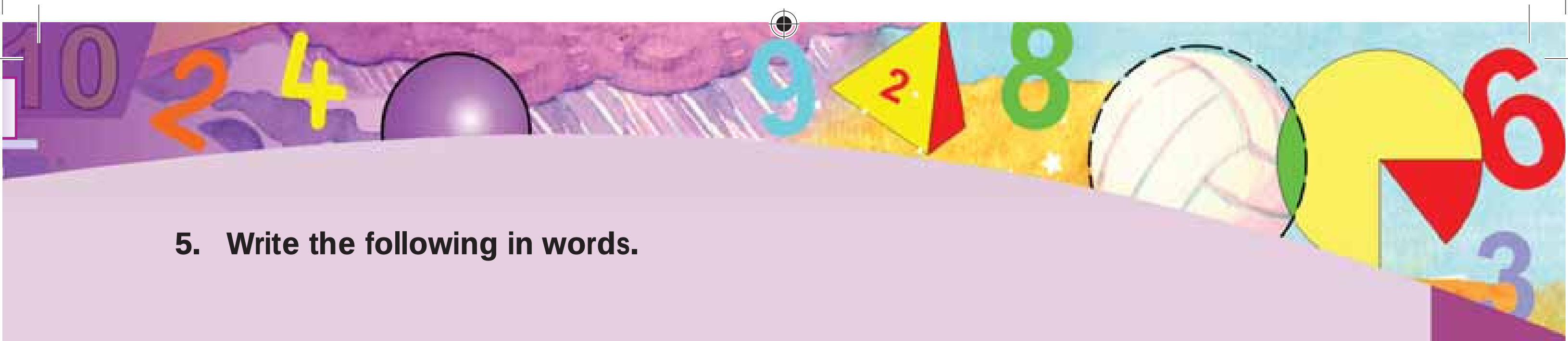
a. 654 = 600 + 50 + 4

b. 203 = ______________________________

c. 2 015 = ______________________________

d. 8 002 = ______________________________

e. 7 605 = ______________________________



5. Write the following in words.

a. 50 ______________________________

b. 300 ______________________________

c. 8 000 ______________________________

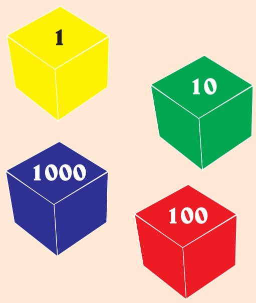
d. 730 ______________________________

e. 9 200 ______________________________

f. 4 729 ______________________________

What is the size of your number?

What you need:
Cut–out 3.



What to do:

- Play in pairs.
- Each player rolls the thousands (blue), hundreds (red), tens (green) and units (yellow) dice.
- Each player then makes this four digit number with his or her own number cards.
- The winner is the player with the greatest number.
- Do the same activity five times.

Remember zero is a place holder.

Sign:

Date:

Patterns in addition and subtraction 1 to 10 000

What do addition and subtraction mean?

+

What does **addition** mean?

−

What does **subtraction** mean?

1. Complete the pattern:

a. + 100, + 100, + 100

200	300	400			

b. – 200, – 200, – 200

2 000	1 800	1600			

c. + 500, + 500, + 500

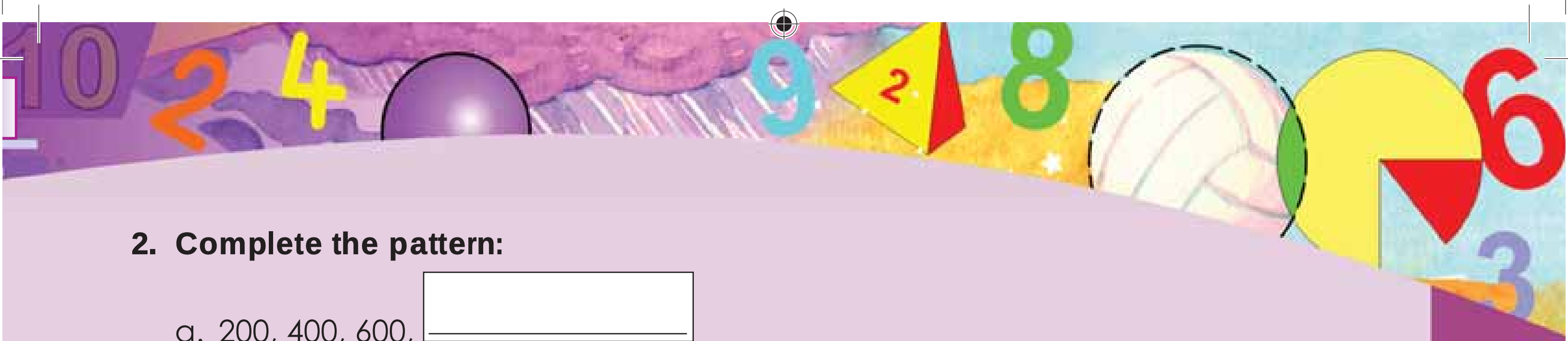
500	1 000	1 500			

d. + 300, + 300, + 300

600	900	1 200			

e. – 400, – 400, – 400

5 000	4 600	4 200			



2. **Complete the pattern:**

a. 200, 400, 600, $\boxed{}$

b. 400, 800, 1 200, $\boxed{}$

c. 1 000, 1 500, 2 000, $\boxed{}$

d. 9 000, 8 000, 7 000, $\boxed{}$

e. 7 700, 7 600, 7 500, $\boxed{}$

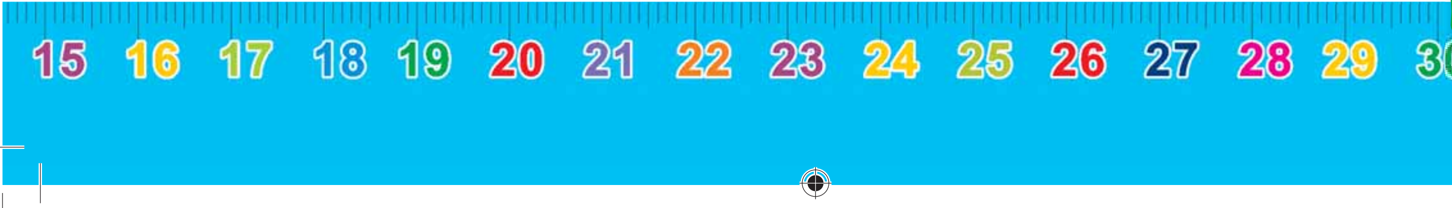
3. **Complete the table by filling in the missing numbers.**

		Complete to the next 10	**Complete to the next 100**
a.	48	$48 + \boxed{2} = 50$	$48 + \boxed{} = 100$
b.	164	$164 + \boxed{} = 170$	$164 + \boxed{} = 200$
c.	549	$549 + \boxed{} = 550$	$549 + \boxed{} = 600$
d.	176	$176 + \boxed{} = 180$	$176 + \boxed{} = 200$
e.	398	$398 + \boxed{} = 400$	$398 + \boxed{} = 400$

Sign:

Date:

continued ☛



R3b

Revision

Patterns in addition and subtraction 1 to 10 000 continued

Examples:

Example 1:

5 783 + 129

= 5 000 + 700 + 80 + 3 + 100 + 20 + 9

= 5 000 + 800 + 100 + 12

= 5 000 + 900 + 10 + 2

= 5 912

Example 2:

$$\begin{array}{crrrrl} & 3 & 2 & 4 & 7 & \\ + & & 7 & 3 & 8 & \\ \hline & & & 1 & 5 & (8 + 7) \\ & & & 7 & 0 & (40 + 30) \\ & & 9 & 0 & 0 & (200 + 700) \\ + & 3 & 0 & 0 & 0 & (3\ 000) \\ \hline & 3 & 9 & 8 & 5 & \\ \hline \end{array}$$

4. Use both methods above to calculate the following. Write down the steps you use.

a. 654 + 43 =

b. 572 + 317 =

c. 1 671 + 327 =

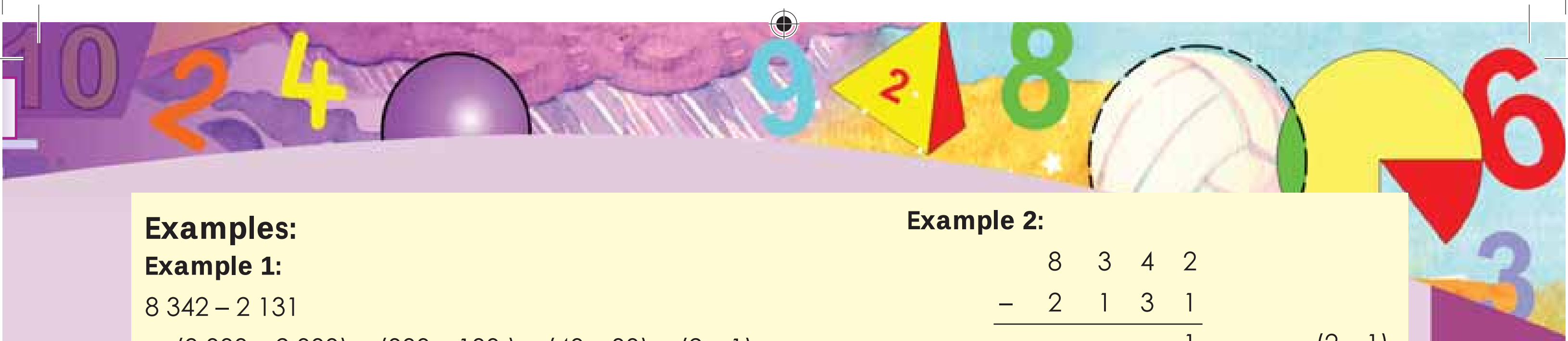
Continue on an extra sheet of paper.

d. 2 164 + 42 =

e. 4 256 + 2 487 =

f. 2 194 + 3 642 =

Continue on an extra sheet of paper.



Examples:

Example 1:

8 342 – 2 131

= (8 000 – 2 000) + (300 – 100) + (40 – 30) + (2 – 1)

= 6 000 + 200 + 10 + 1

= 6 211

Example 2:

	8	3	4	2	
–	2	1	3	1	
				1	(2 – 1)
			1	0	(40 – 30)
		2	0	0	(300 – 100)
–	6	0	0	0	(8 000 – 2 000)
	6	2	1	1	

5. Choose one of the methods above to calculate the following. Write down the steps you use.

a. 7 182 – 61 =

b. 7 546 – 431 =

c. 8 764 – 3 451 =

Continue on an extra sheet of paper.

d. 2 456 – 83 =

e. 4 658 – 999 =

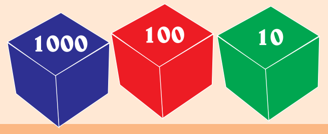
f. 8 759 – 4 793 =

Continue on an extra sheet of paper.

+

What is the size of your number:

What you need:
- Use the 10s, 100s and 1 000s dice made in the previous activity.
- Piece of paper.



What to do:
- Roll the tens (green) dice.
- Add the number landed on, to the first number on the blue card. Write your addition sum on a piece of paper.
- Do the same with the next four numbers.
- Repeat the activity with the 100s and 1 000s dice.
- Learners check each others' additon sums.
- The winner is the person with the most correct answers.

1 132
1 423
1 400
1 675
1 897

–

Repeat the activity using subtraction.

Sign:

Date:

R4a

Multiples and Multiplication

What do multiples and multiplication mean? Use the words to help you to describe them.

X

What does multiplication mean?

multiply

groups of

product

times

multiplied by

Multiples example:

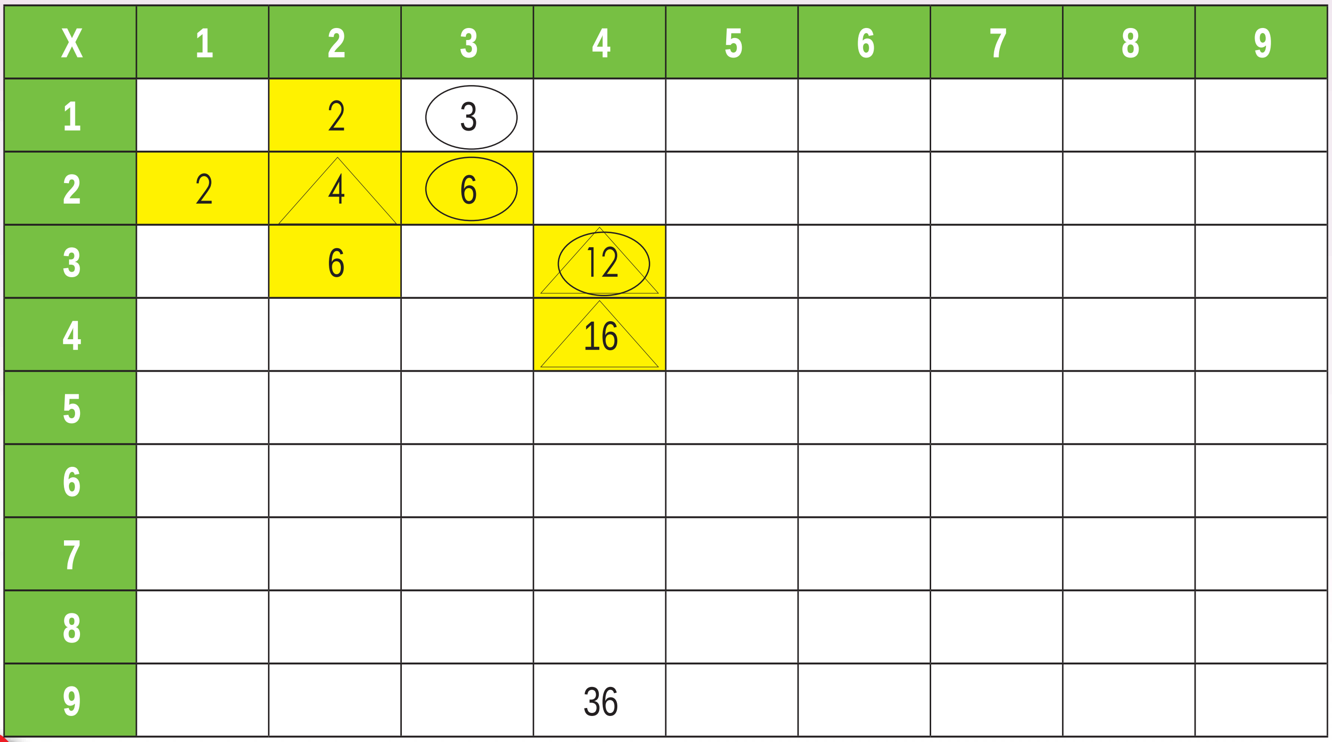
- Some multiples of 2 are 2, 4, 6, 8, 10, 12, 14, 16, 18, …
- Some multiples of 4 are 4, 8, 12, 16, 20, 24, 28, 32, …

1. Complete the number board. We have done a few for you.

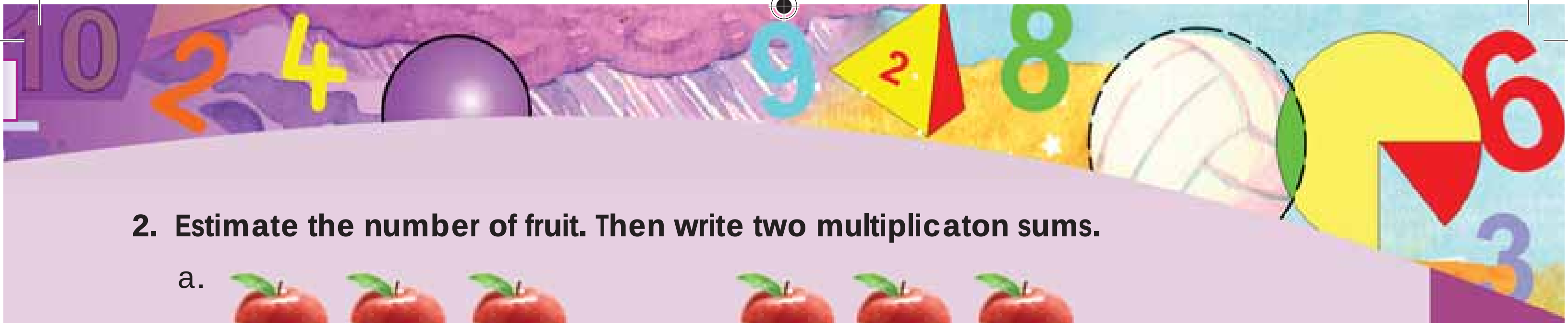
a. Colour all the multiples of 2 yellow.

b. Circle all the multiples of 3.

c. Make a triangle around the multiples of 4.

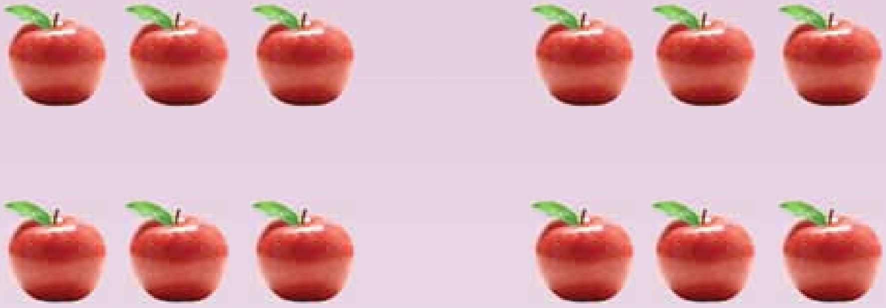


X	1	2	3	4	5	6	7	8	9
1		2	3						
2	2	4	6						
3		6		12					
4				16					
5									
6									
7									
8									
9				36					



2. **Estimate the number of fruit. Then write two multiplicaton sums.**

a.

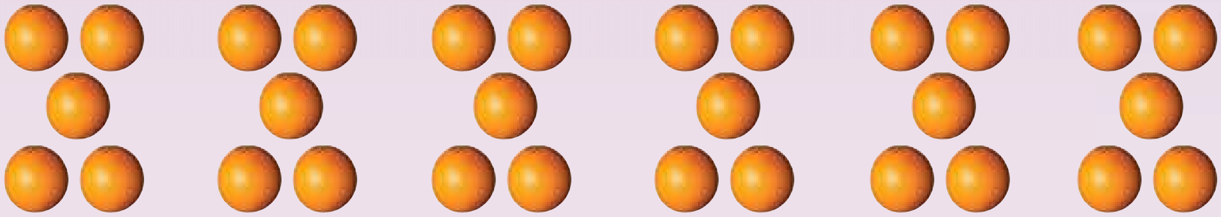


12

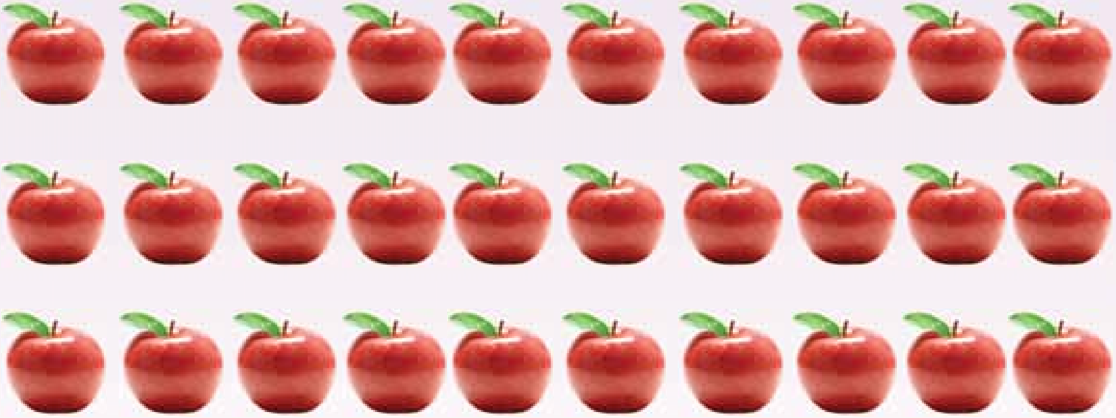
4 × 3 = 12

3 × 4 = 12

b.



c.



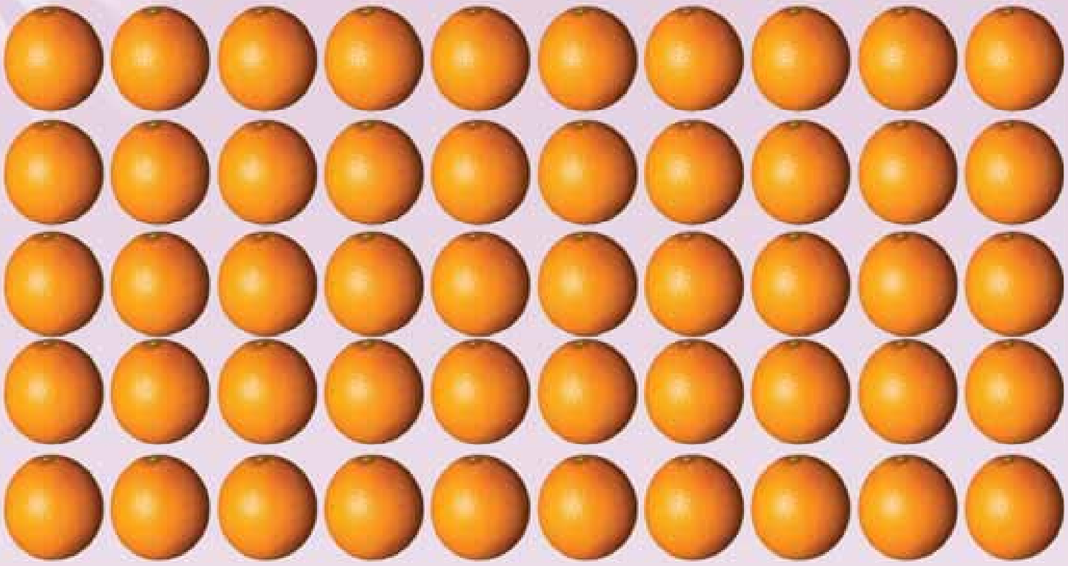
Sign:

Date:

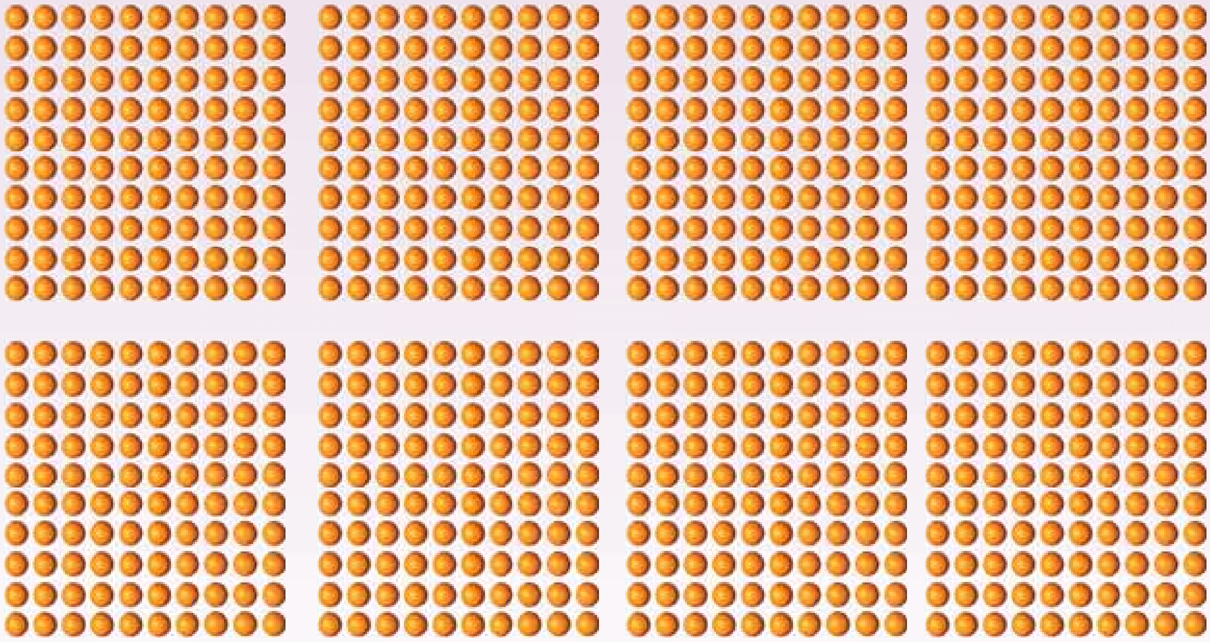
continued ☛

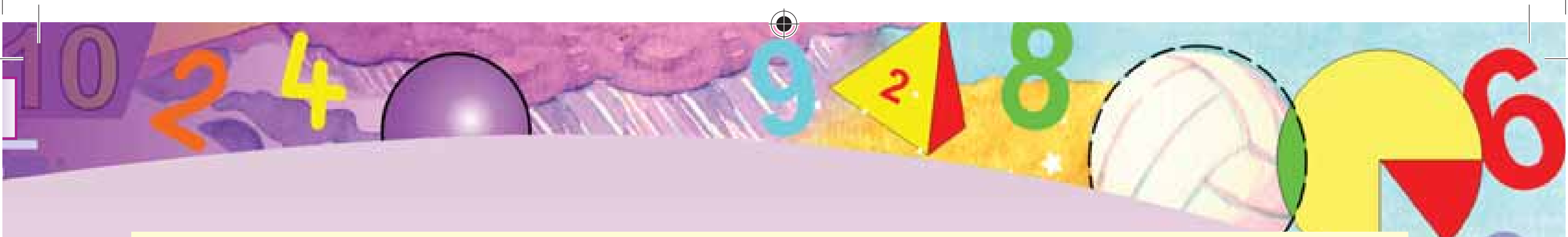
R4b Multiples and multiplication continued

d.



e.





Examples:

Example 1:

56 x 5

= (50 + 6) x 5

= (50 x 5) + (6 x 5)

= 250 + 30

= 280

Example 2:

$$\begin{array}{r l} 56 & \\ \times \quad 5 & \\ \hline 30 & (6 \times 5) \\ 250 & (50 \times 5) \\ \hline 280 & \\ \hline \end{array}$$

3. Use both methods above to calculate the following. Write down the steps you use.

a. 24 x 3 =

b. 52 x 9 =

Continue on an extra sheet of paper.

c. 23 x 21 =

d. 46 x 37 =

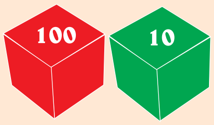
Continue on an extra sheet of paper.

X

In one minute I can ...

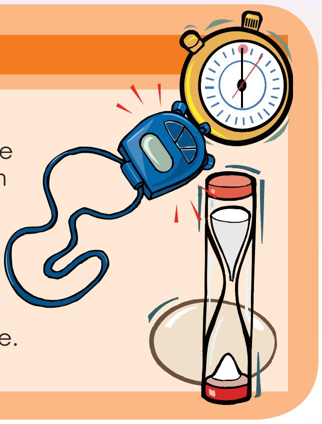
What you need:

- Use the 10s and 100s dice made in the previous activity.
- Piece of paper.



What to do:

- Roll a 10s dice and then a 100s dice. Multiply the two numbers. Write down the multiplication sum with the answer.
- Repeat doing this until your teacher says stop.
- Give your sums to your partner to mark.
- The winner is the person with the most correct multiplication sums.
- Do the same activity, but roll the 100s dice twice.



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Revision

R5a Division and Factors

Term 1

What does division mean? Use the words to help you to describe it.

÷

- divide
- remainder
- divided by
- share

1. Look at the coloured squares. Write a division sum for each.

X	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	36	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

a. ● 24 ÷ 6 = 4 or 24 ÷ 4 = 6

b. ● ____________________

c. ● ____________________

d. ● ____________________

e. ● ____________________

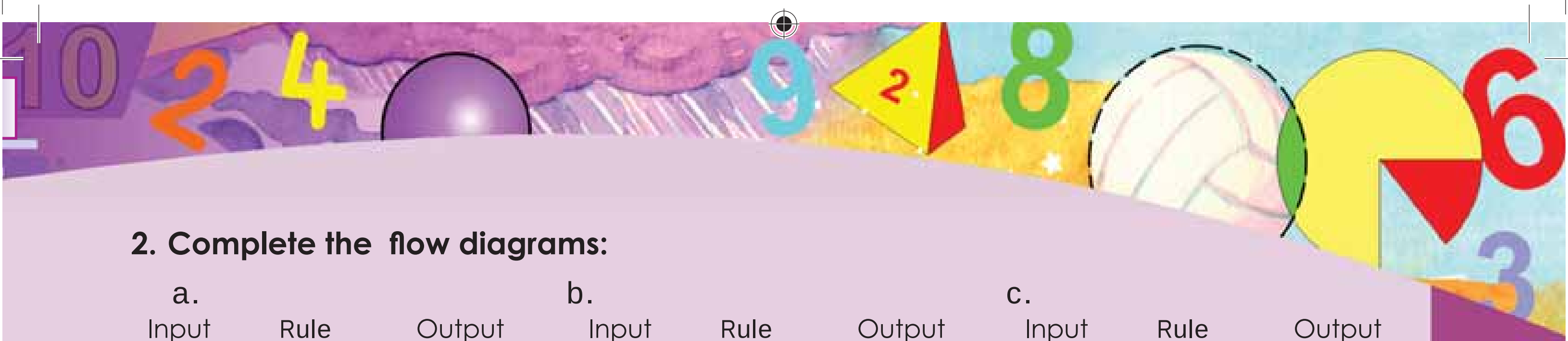
f. ● ____________________

g. ● ____________________

h. ● ____________________

i. ● ____________________

j. ● ____________________



2. Complete the flow diagrams:

a.

Input	Rule	Output
35		5
42		6
14		2
56		8
63		9

b.

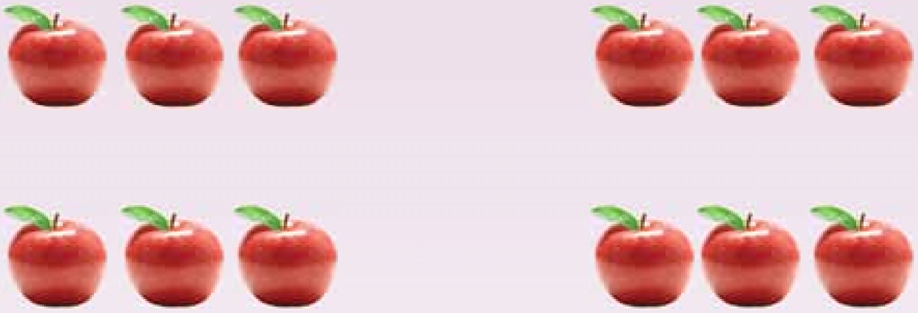
Input	Rule	Output
25		5
15		3
50		10
45		9
35		7

c.

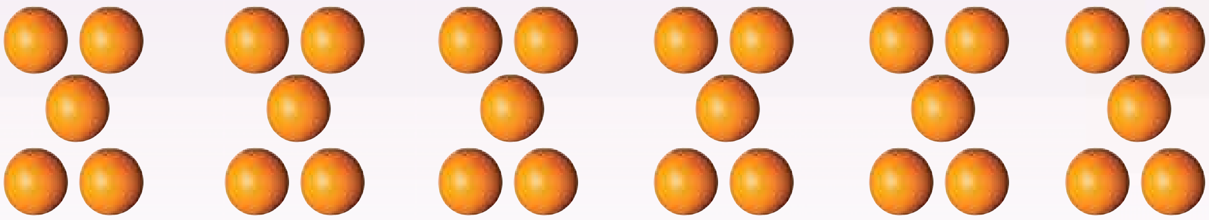
Input	Rule	Output
42		7
6		1
54		9
30		5
36		6

3. Write a word problem and division sum for the following:

a.



b.



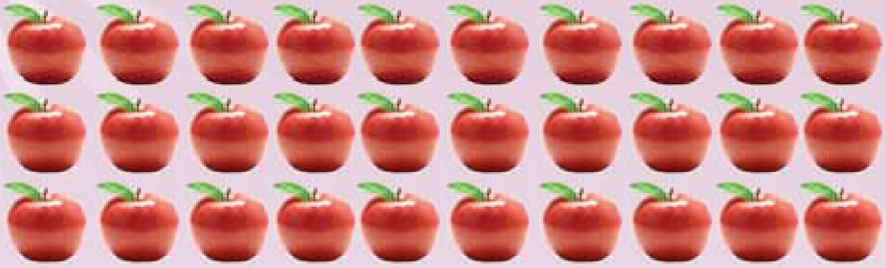
Sign:

Date:

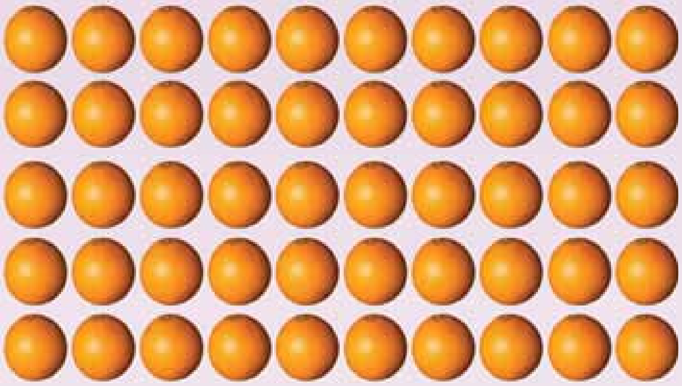
continued ☛

Division and factors continued

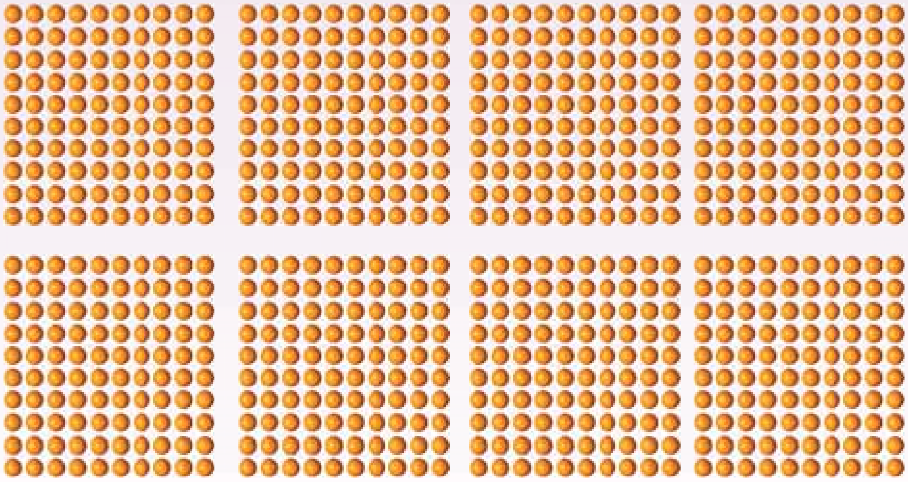
c.



d.



e.



Examples:

Example 1:

42 ÷ 2
= (40 + 2) ÷ 2
= (40 ÷ 2) + (2 ÷ 2)
= 20 + 1
= 21

Example 2:

369 ÷ 3
= (300 + 60 + 9) ÷ 3
= (300 ÷ 3) + (60 ÷ 3) + (9 ÷ 3)
= 100 + 20 + 3
= 123

4. Use the method above. Write down the steps you use.

a. 64 ÷ 2 =
b. 63 ÷ 3 =
c. 48 ÷ 4 =

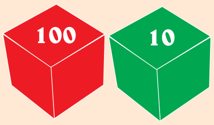
Continue on an extra sheet of paper.

d. 55 ÷ 5 =
e. 448 ÷ 4 =
f. 318 ÷ 3 =

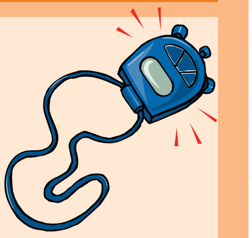
Continue on an extra sheet of paper.

÷ **In one minute I can ...**

What you need:
- Use the 10 and 100s dice.
- Piece of paper.



What to do:
- Roll a 10s dice and then the 100s dice.
- Divide the bigger number by the smaller number. Write down the division sum with the answer.
- Repeat doing this until your teacher says stop.
- Give your division sum to your partner to mark.
- The winner is the person with the most correct division sums.



Sign:

Date:

R6

Number sentences

Revision

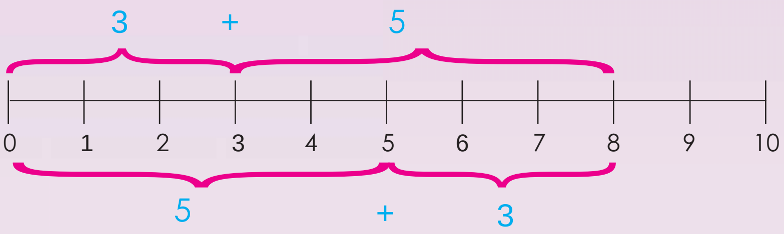
Term 1

How fast can you calculate the following?

4 + 2 =	1 + 7 =	7 + 5 =	6 + 5 =
3 + 6 =	3 + 2 =	8 + 6 =	9 + 9 =
5 + 4 =	1 + 9 =	9 + 4 =	8 + 7 =
2 + 8 =	2 + 4 =	7 + 7 =	

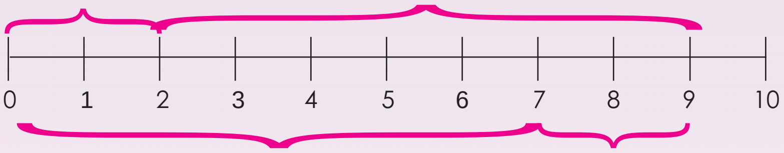
1. Write addition sums for the following: We have done the first example for you.

a.



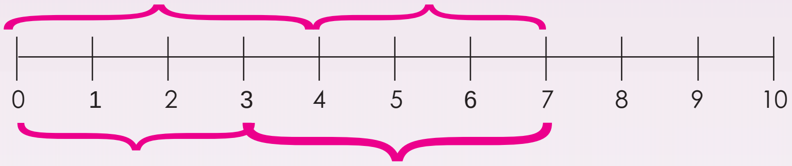
3 + 5 = 5 + 3

b.



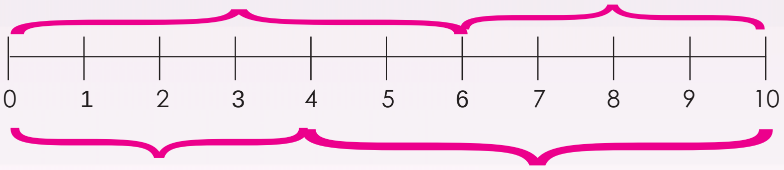
☐ = ☐

c.



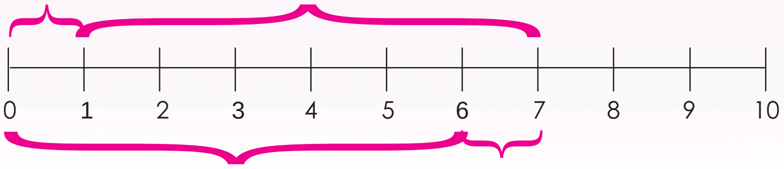
☐ = ☐

d.

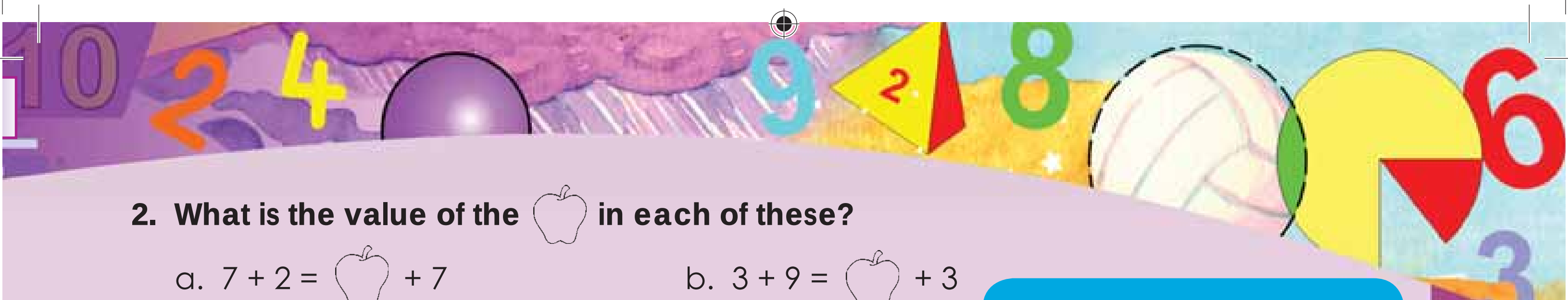


☐ = ☐

e.



☐ = ☐



2. What is the value of the 🍎 in each of these?

a. 7 + 2 = 🍎 + 7

b. 3 + 9 = 🍎 + 3

c. 8 + 4 = 4 + 🍎

d. 6 + 5 = 5 + 🍎

e. 🍎 + 1 = 1 +9

f. 3 + 🍎 = 2 + 3

3. What is the value of the 🍎 in each of these?

a. 2 x 3 = 🍎 x 2

b. 5 x 4 = 🍎 x 5

c. 1 x 8 = 8 x 🍎

d. 6 x 3 = 3 x 🍎

e. 7 x 🍎 = 9 x 7

f. 🍎 x 5 = 5 x 4

4. Match column A with column B.

Column A	Column B
10 + 2	7 + 5
4 x 5	5 x 4
3 + 9	2 + 10
3 x 2	1 + 6
5 + 7	9 + 3
6 x 4	5 x 7
9 + 4	8 x 4
7 x 5	4 x 6
6 + 1	4 + 9
4 x 8	2 x 3

Pattern fun

How fast can you get the answers?

5	9	25	100
10	12	50	200
15	15	75	300

Colour the cards

Use different colours to colour in those cards that have the same answer.

6 + 8	7 + 3	2 x 9	6 x 8	3 x 7
9 x 2	9 + 2	6 + 5	5 + 6	2 + 9
7 x 3	8 x 6	8 + 6	3 + 7	6 – 5

Sign:

Date:

R7a

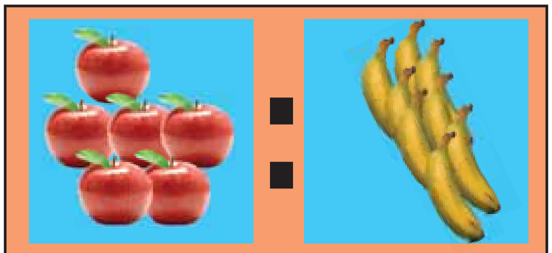
Ratio and Rate

Revision

Term 1

Discuss the words “ratio” and “rate”.

Ratio



or 6:8

Written as a ratio

Rate

The chicken cost R50 per kg.

We can also say it costs R50/kg.

Rate symbol /

1. Answer the following questions.

a. How many peaches do you see? ____________

b. How many bananas do you see? ____________

c. What is the ratio of bananas to peaches? ____________

d. What is the ratio of peaches to bananas? ____________

e. What is the ratio of the peaches to all the fruit? ____________

2. Look at the pictures and answer the questions below.

a. How many pink flowers do you count?

b. How many yellow flowers do you count?

c. How many purple flowers do you count?

d. How many white flowers do you count?

e. What is the ratio of pink flowers to yellow flowers?

f. What is the ratio of yellow flowers to purple flowers?

g. What is the ratio of pink flowers to purple flowers?

h. What is the ratio of yellow flowers to white flowers?

i. What is the ratio of white flowers to pink flowers?

Sign:

Date:

continued ☛

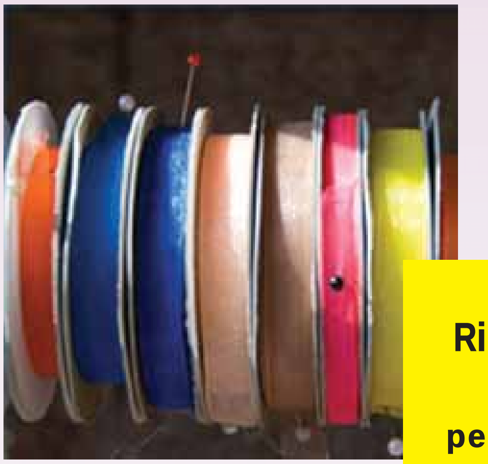
Ratio and Rate continued

3. **Look at the questions and answer the questions below.**

Cheese
R40
per kg

Beef
R60
per kg

Milk
R10
per litre



Ribbon
R5
per metre

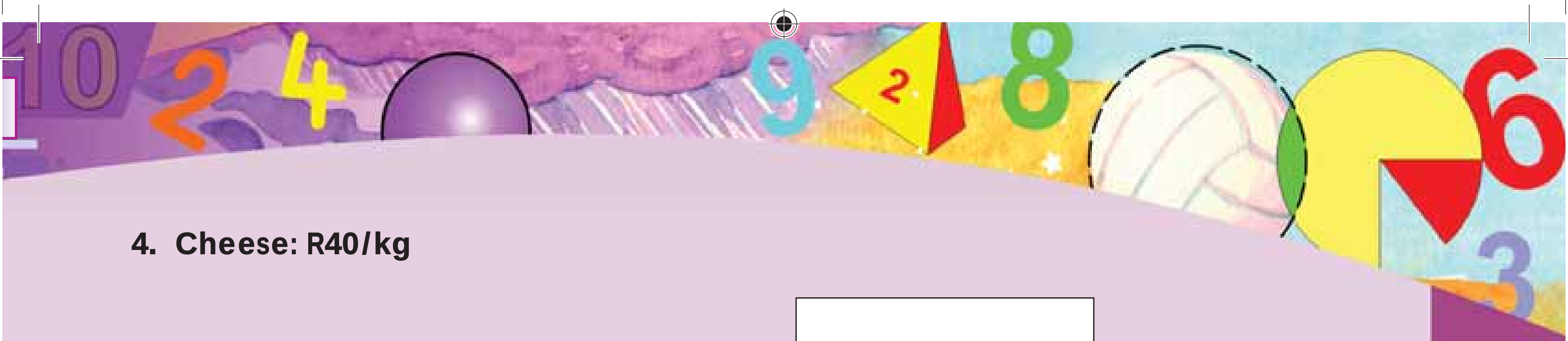
Write out each statement above using the rate symbol. Then work out how much will double that rate cost.

a. Cheese is R40/kg   Double R40 = R40 × 2 = R80

b. ______________________________

c. ______________________________

d. ______________________________



4. **Cheese: R40/kg**

a. How much will it cost me to buy 1 kg?

b. How much will it cost me to buy 2 kg?

c. How much will it cost me to buy 3 kg?

d. How much will it cost me to buy 4 kg?

e. How much will it cost me to buy half a kilogram?

5. **If Simon is paid R9/hour to work at the market, how many hours must he work if he wants to make R54?**

Continue on an extra sheet of paper.

Prices

- Walk around a shop and find 3 items on which they write Rand/cents per kilogram.
- Write down these examples and bring them to class.

Sign:

Date:

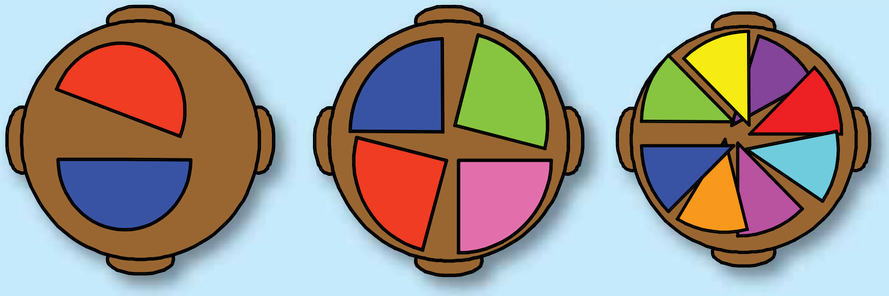
R8

Fractions

Revision

Term 1

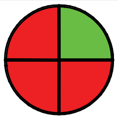
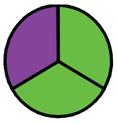
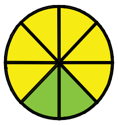
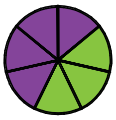
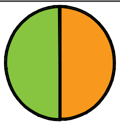
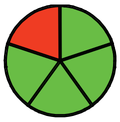
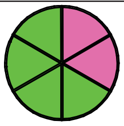
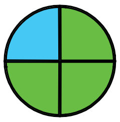
Look at the tables and use words such as half, quarter, and eight.

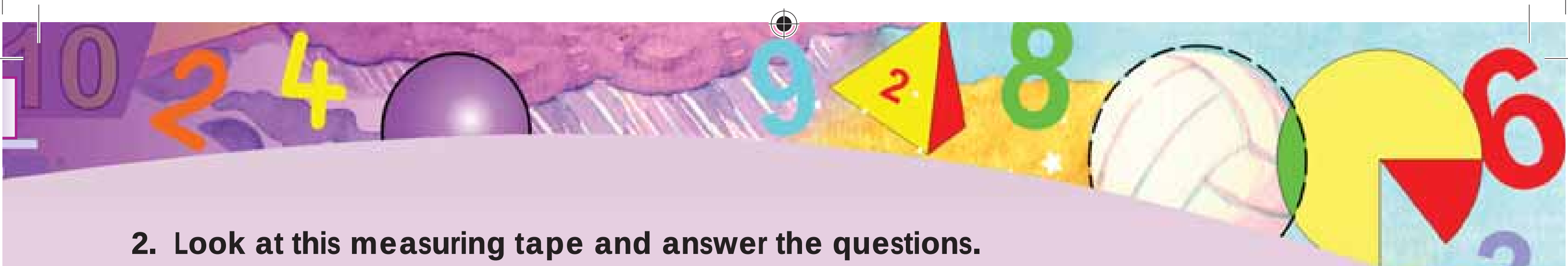


Three circles of cardboard have been cut up in different ways and the pieces from each circle put on a table.

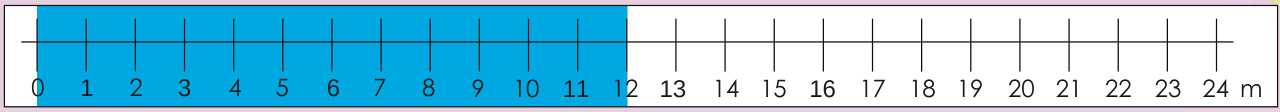
Look at each table and discuss it in a group.
What will happen on each table if you put the pieces back together to form a circle?

1. Look at the coloured–in circles. Write a division sum for each.

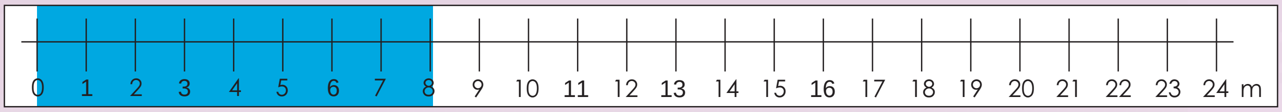
Fraction circle	Fraction that is green	Division sum	Colour the same fraction on this diagram
a. 	$\frac{1}{4}$	$1 \div 4 = \frac{1}{4}$	🟩🟥🟥🟥 $\frac{1}{4}$ is green.
b. 			☐☐☐
c. 			☐☐☐☐☐☐☐☐
d. 			☐☐☐☐☐☐☐
e. 			☐☐
f. 			☐☐☐☐☐
g. 			☐☐☐☐☐☐
h. 			☐☐☐☐☐☐☐☐



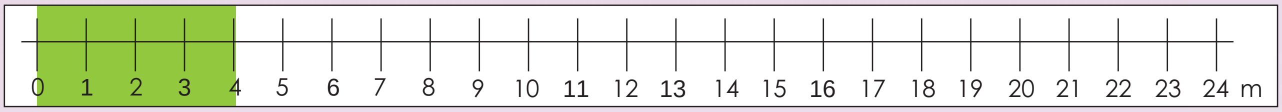
2. Look at this measuring tape and answer the questions.



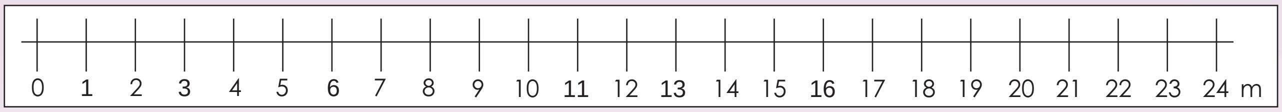
a. What is one half of 24 m? $\boxed{}$ We can say **24 ÷ 2 = 12**.



b. What is one third of 24 m? $\boxed{}$ We can say **24 ÷** $\boxed{}$ **=** $\boxed{}$.



c. What is one sixth of 24 m? $\boxed{}$ We can say **24 ÷** $\boxed{}$ **=** $\boxed{}$_.



d. What is one eighth of 24 m? $\boxed{}$ We can say **24 ÷** $\boxed{}$ **=** $\boxed{}$.

3. Using Cut–out 4 as a guide, fill in whether each of these is <, > or =.

a. $\frac{1}{2} \boxed{>} \frac{1}{4}$

b. $\frac{1}{2} \boxed{} \frac{1}{8}$

c. $\frac{1}{8} \boxed{} \frac{1}{4}$

d. $\frac{1}{3} \boxed{} \frac{1}{6}$

e. $\frac{1}{6} \boxed{} \frac{1}{8}$

f. $\frac{1}{5} \boxed{} \frac{1}{6}$

g. $\frac{1}{7} \boxed{} \frac{1}{6}$

h. $\frac{2}{4} \boxed{} \frac{1}{2}$

i. $\frac{4}{8} \boxed{} \frac{1}{2}$

j. $\frac{2}{6} \boxed{} \frac{1}{7}$

k. $\frac{4}{6} \boxed{} \frac{2}{3}$

l. $\frac{4}{5} \boxed{} \frac{3}{8}$

m. $\frac{7}{8} \boxed{} \frac{2}{3}$

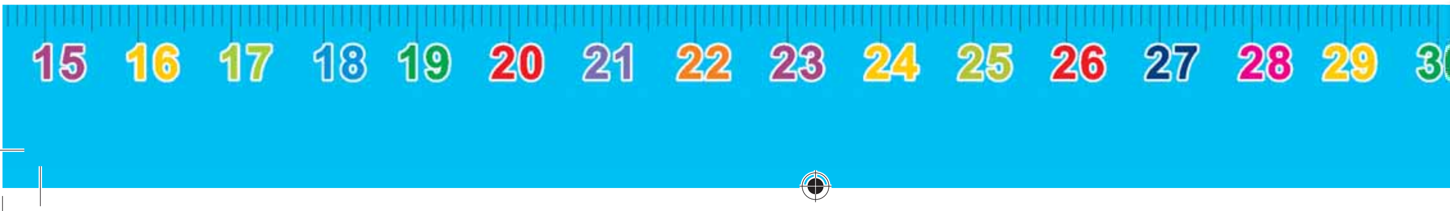
n. $\frac{8}{8} \boxed{} 1$

o. $\frac{5}{7} \boxed{} \frac{4}{5}$

Sign:

Date:

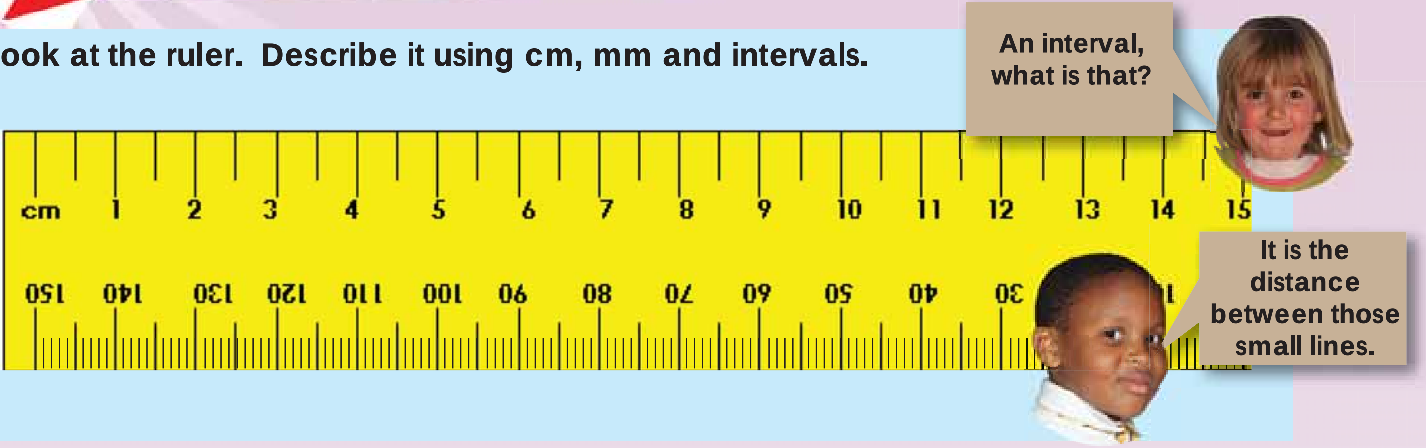
See the fraction game in the next lesson.



R9

Fraction problems

Look at the ruler. Describe it using cm, mm and intervals.



1. How much orange juice is in each jug? Choose and circle the correct answer.

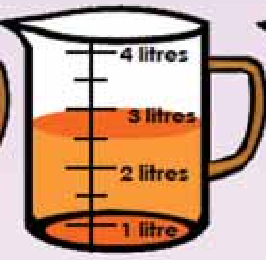
a.

i. 3 litres

ii. 3,5 litres

iii. 2 litres

b.



i. 3 litres

ii. 2,5 litres

iii. 2 litres

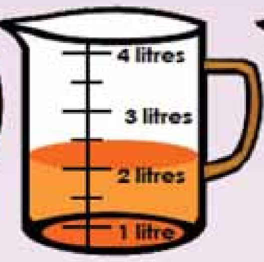
c.

i. 4 litres

ii. 2,5 litres

iii. 3,5 litres

d.



i. 2 litres

ii. 1,5 litres

iii. 2,5 litres

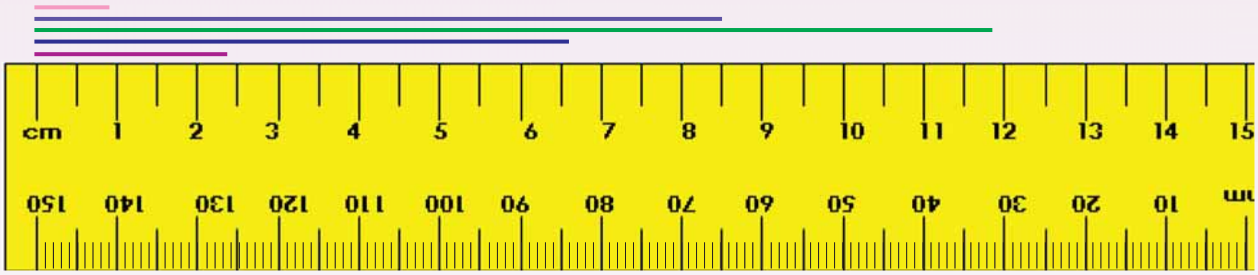
e.

i. 3,5 litres

ii. 4 litres

iii. 2,5 litres

2. How long is each line? Give your answer in millimeters and centimeters.



a. Pink line ☐ mm ☐ cm

b. Purple line ☐ mm ☐ cm

c. Green line ☐ mm ☐ cm

d. Blue line ☐ mm ☐ cm

e. Red line ☐ mm ☐ cm

3. There are eight children at my party. Make drawings to solve your questions.

a. Two cakes are shared equally between eight children. What part of a cake will each child get?

b. Each child gets one eighth of the lollipops. How many lollipops will each child get?

c. How much juice will each child get if you share it equally between them.

Fraction fun at home

- With the help of an adult find as many things as you can at home that are divided into equal pieces. Name the object and say into how many pieces it is divided.

Sign:

Date:

Money problems

Look at the pictures. Discuss what you can do with the money.

1. You and three of your friends collected all your old toys to sell to buy four sports shirts. Each shirt costs R50.

a. Look above. This is what you sold on the first day. How much did you sell?

b. How much money do you need to buy all four shirts?

c. How many shirts can you buy with the money you made on the first day?

d. How much more do you need to sell to buy the four shirts?

2. After three days you sold everything. You kept a record of what you were selling. Now you need to calculate everything.

First day	I sold: R1 5, 0 0 R1 7, 0 0 + R4 5, 0 0 ________	We still need to sell ________ worth of toys to buy all the shirts. Calculate it here.
Second day	I sold: R2 5, 0 0 R3 5, 0 0 R 8, 0 0 + R2 2, 0 0 ________	We still need to sell ________ worth of toys to buy all the shirts. Calculate it here.
Third day	I sold:	Do we have enough money for 4 shirts? Show it here.

My wish ...

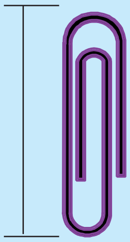
- Write down what you really want to buy.
- How much does it cost?
- What can you do to get the money?

Sign:

Date:

R11

Length



About 3 cm

About how many paper clips long is the pencil?
How did you find out?

1. A paper clip is about 3 centimetres long.
Use the paper clip as a measure to make these estimates. Check your estimates by measuring to the nearest centimetre.

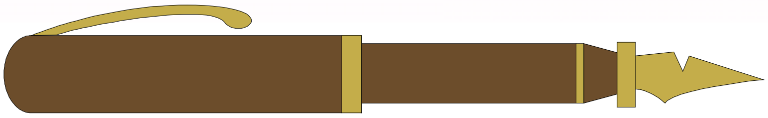
	Estimate	Measure
a. Length of your thumb.		
b. Width of your maths book.		
c. Length of a crayon.		
d. Length of a pencil.		
e. Length of an envelope.		
f. Length of an eraser.		

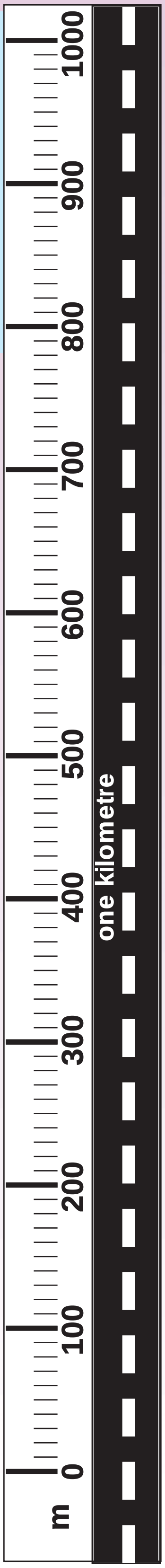
2. Use your centimetre ruler. Write the length of each object.

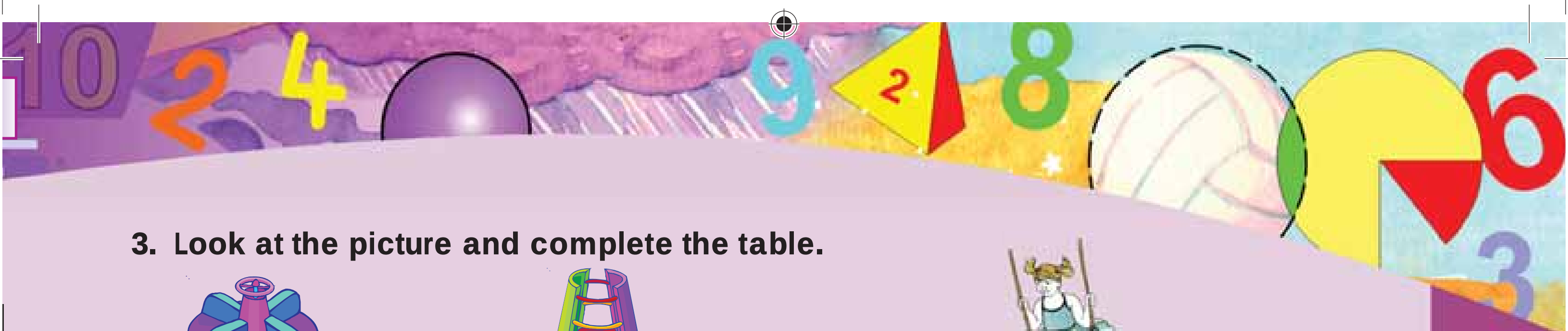
a.

b.

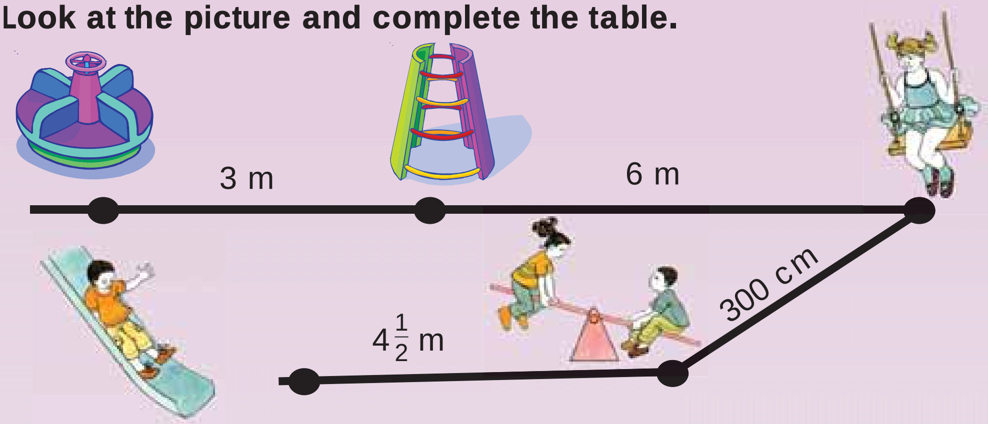
c.







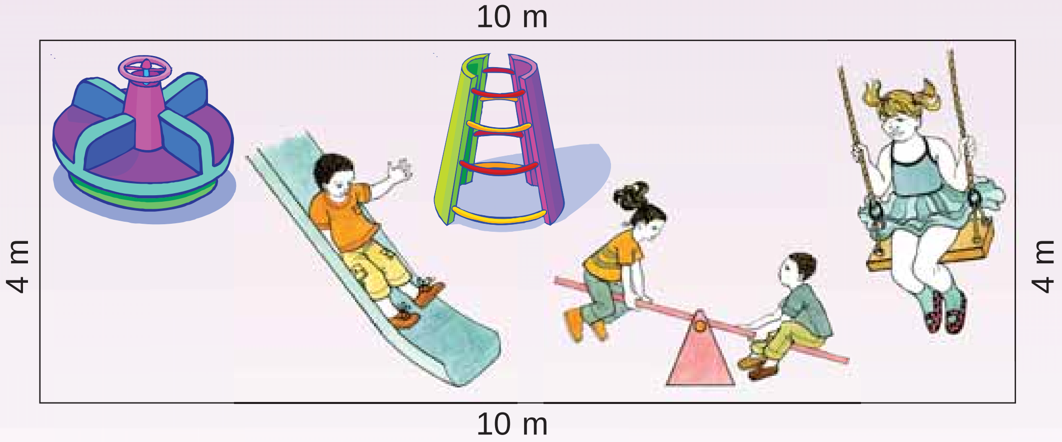
3. Look at the picture and complete the table.



Distance from:	Metres (m)	Centimetres (cm)
The merry–go–round to the ladder.		
The ladder to the swing.		
The swing to the seesaw.		
The seesaw to the slide.		

4. A fence was built around the playground. How long is the fence? Write your answer in metres and centimetres.

______ **m** ______ **cm**



How tall? How long?

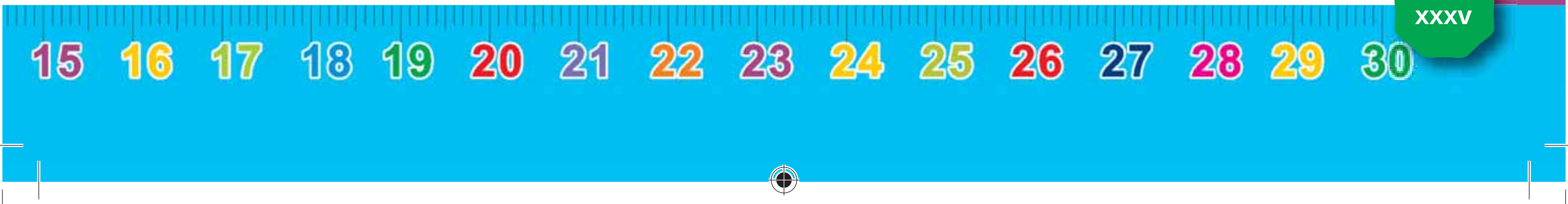
- How tall are you?
- How tall is your mother or caregiver?
- How tall is your teacher?
- How tall is your principal?

Which is the longest?

- One third of a metre or one quarter of a metre.

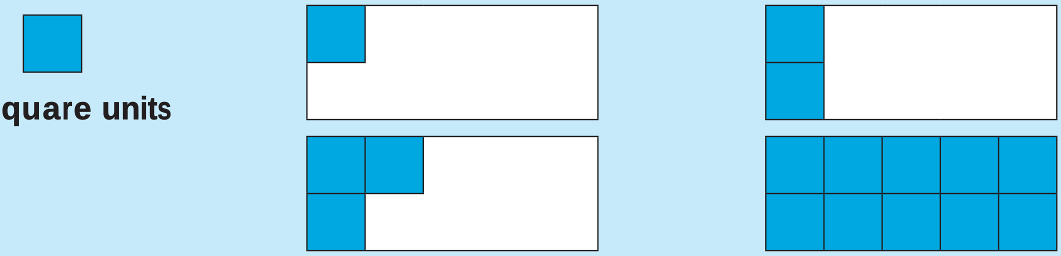
Sign:

Date:



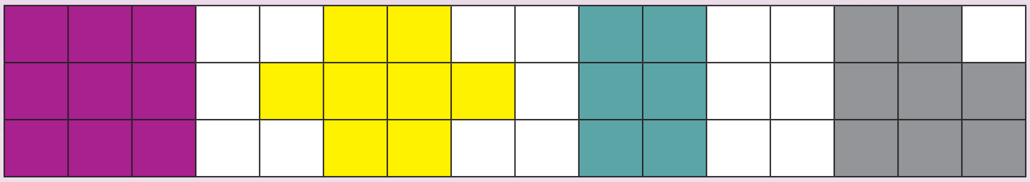
Area and Perimeter

The area of a shape is the number of square units needed to cover the inside shape.



The area is 10 square units.

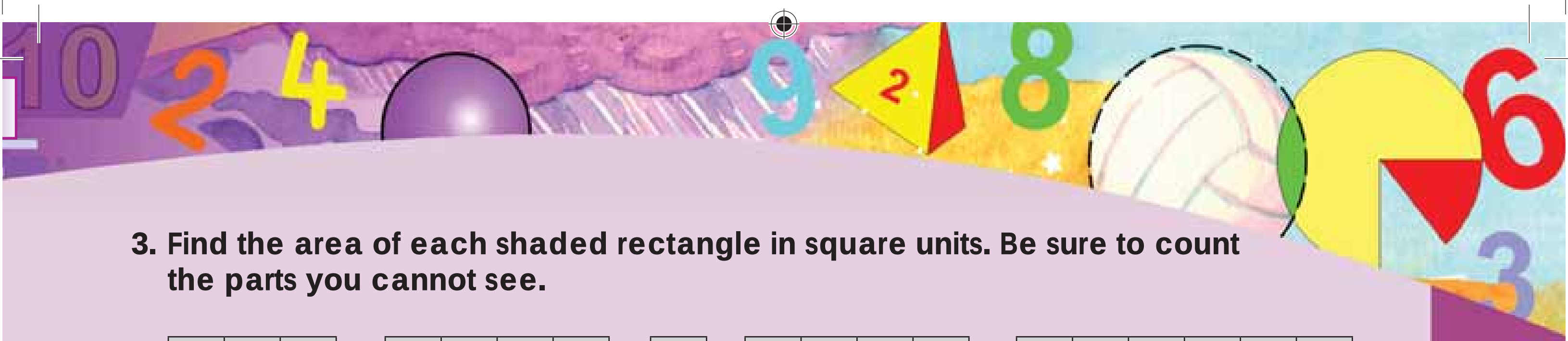
1. Find the area of each shape and write your answers in square units.



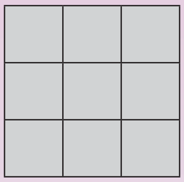
a. ____________ b. ____________ c. ____________ d. ____________

2. Draw the shape described.

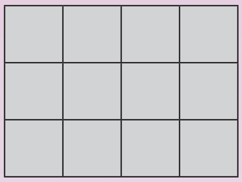
a. A red square with an area of 1 square unit.
b. A green rectangle with an area of 4 square units.
c. A yellow rectangle with 12 square units.
d. A blue rectangle with an area of 10 square units that is longer than it is wide.



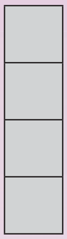
3. Find the area of each shaded rectangle in square units. Be sure to count the parts you cannot see.



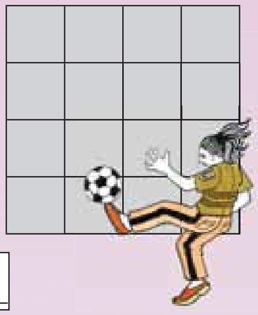
a.



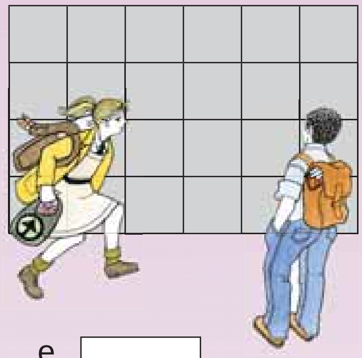
b.



c.



d.



e.

4. A counter top is covered with four rows of square tiles.
There are 9 tiles in a row. What is the area of the counter top in tiles? Make a drawing to show your answer.

5. A counter top is covered with three rows of square tiles.
There are 8 tiles in each of the first two rows and 7 tiles in the third row. What is the area of the counter top in tiles? Make a drawing to show your answer.

Tiling fun

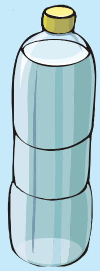
- You are using these tiles to tile the floor. ■ ▢
- How many tiles do you need to tile the floor on the right?

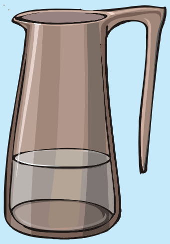
Sign:

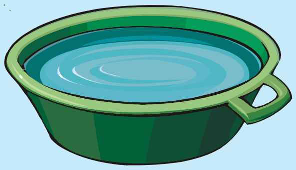
Date:

Capacity

Work in groups. Get some large containers. Estimate which of them would hold about one litre







1. Fill in the correct answer.

a. A cup holds ________ the orange juice carton.
more than, less than, the same as

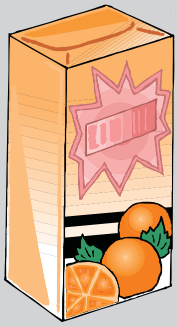
b. The orange juice carton holds ________ the cup.
more than, less than, the same as

c. The jug holds ________ the orange juice carton.
more than, less than, the same as

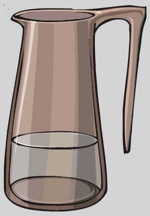
d. The jug holds ________ the cup.
more than, less than, the same as

e. The orange juice carton holds ________ the jug.
more than, less than, the same as

An orange juice carton holds 1 litre.



This cup holds 250 ml.



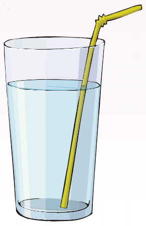
This jug holds 500 ml.

2. Estimate whether the objects hold more than, less than or about the same as 1 litre.

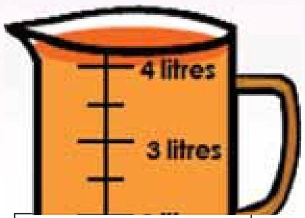
____

____

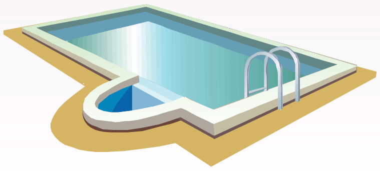
____



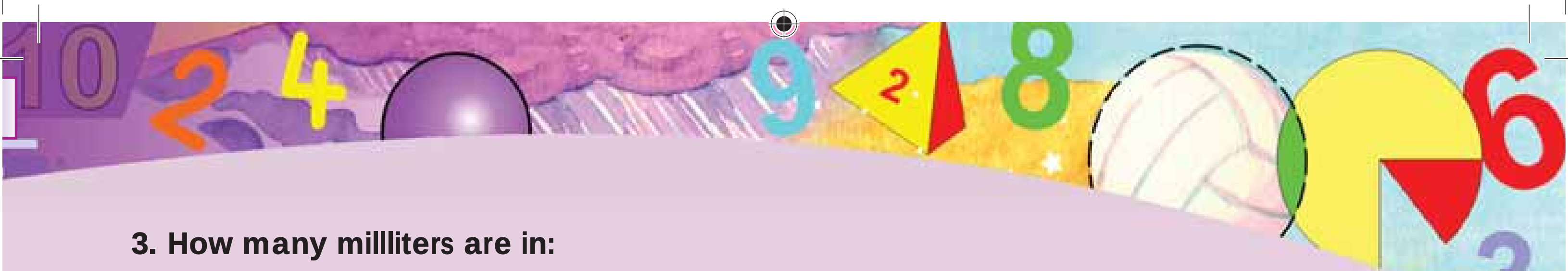
____



____



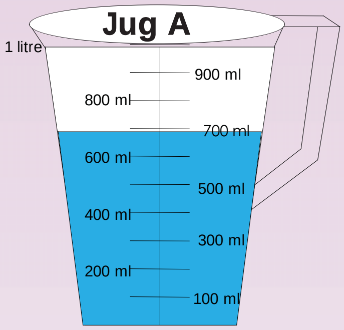
____

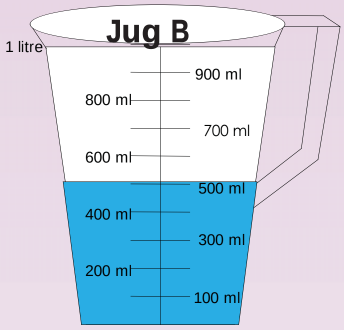


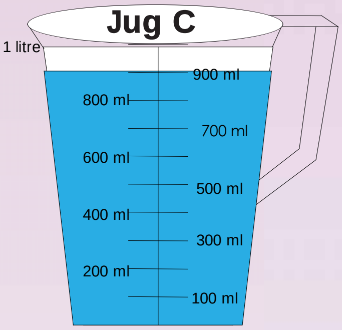
3. How many millliters are in:

- One half a litre,
- One quarter of a litre
- One fifth of a litre

4. Say how much each measuring jug holds?



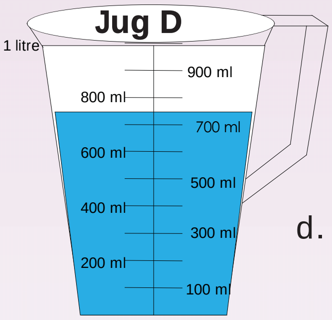




a. ml
ℓ

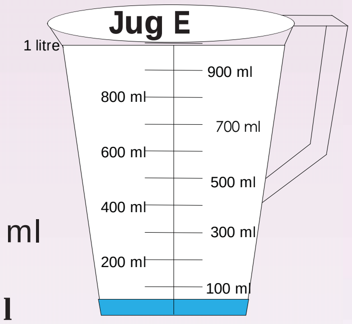
b. ml
ℓ

c. ml
ℓ



d. ml
l

e. ml
l



i. Which jug holds the most?

ii. Which jug holds the least?

iii. How much more does jug B have than jug E?

iv. How much more does jug A have than jug B?

v. Which jug holds less than 500 ml?

At home ...

Find five things that hold less than l litre and five things that hold more than 1 litre at your home.

Sign:

Date:

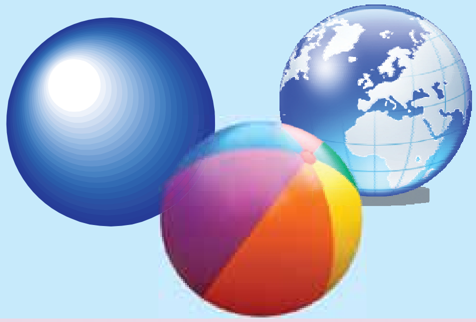
R14

2–D Shapes and 3–D Objects

Revision

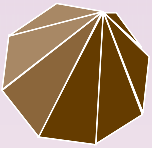
Term 1

Name these 3–dimensional objects. Where in your environment will you find them?

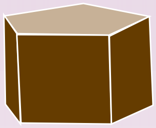


1. Say whether each 3–D object is a pyramid or a prism.

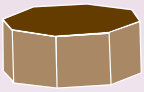
a.



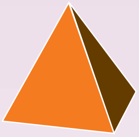
b.



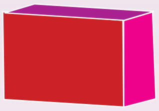
c.



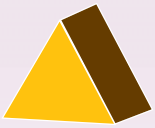
d.



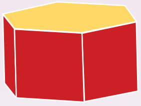
e.



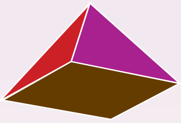
f.



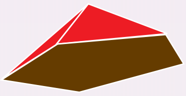
g.



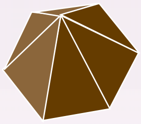
h.



i.



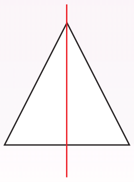
j.



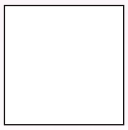
2. Name all the 2–D shapes. How many lines of symmetry does each shape from 2a to 2e have? Draw the line on the shape and write the number next to it.

a. 1

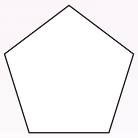
Triangle



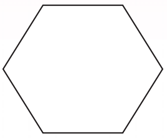
b.



c.

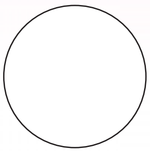


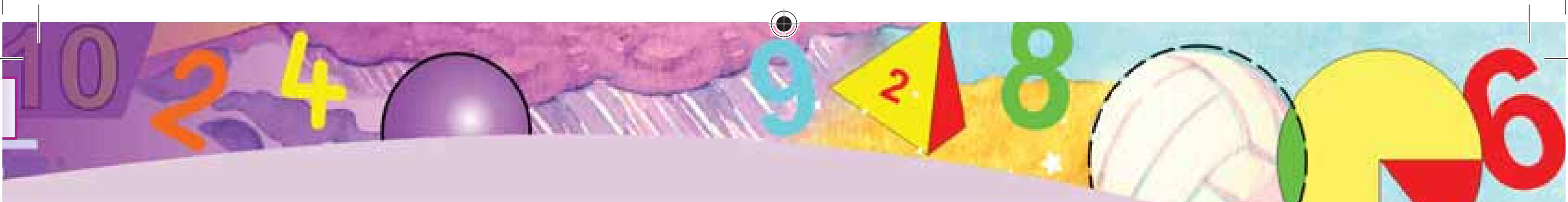
d.



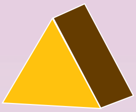
e.

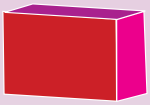
f.

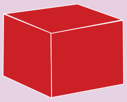


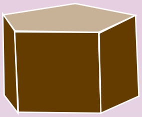


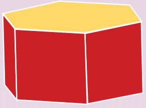
3. Choose the correct shapes to go with the correct prism/pyramid.

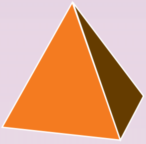

a. Triangular prism

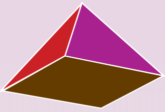

b. Rectangular prism

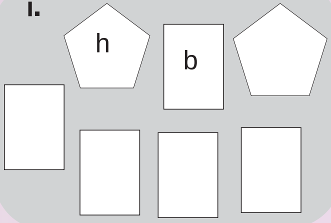

c. Cube

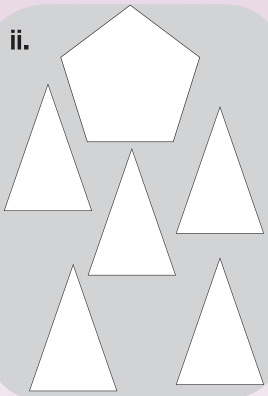

d. Pentagonal prism

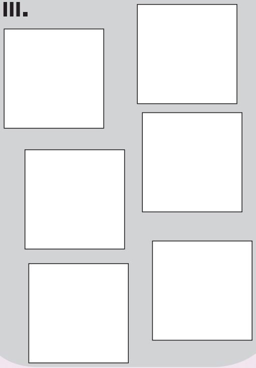

e. Hexagonal prism

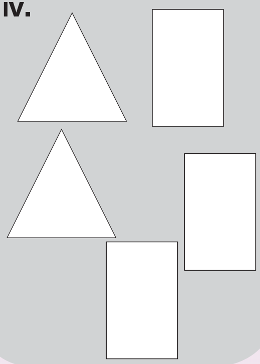

f. Tetrahedron/ Triangular pyramid

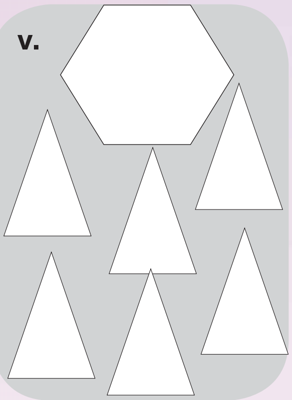

g. Square pyramid

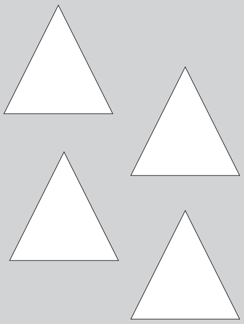
i.


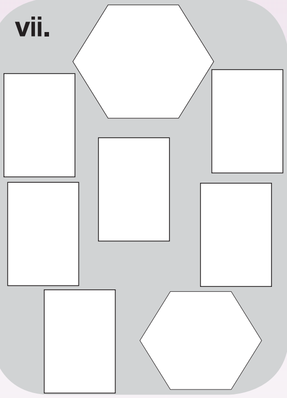
ii.


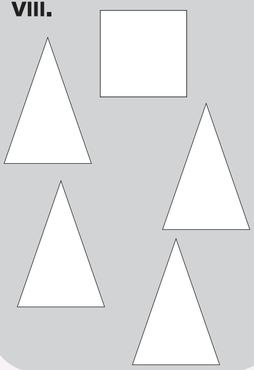
iii.


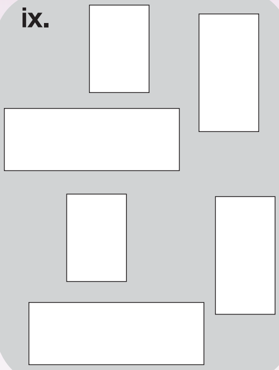
iv.


v.


vi.


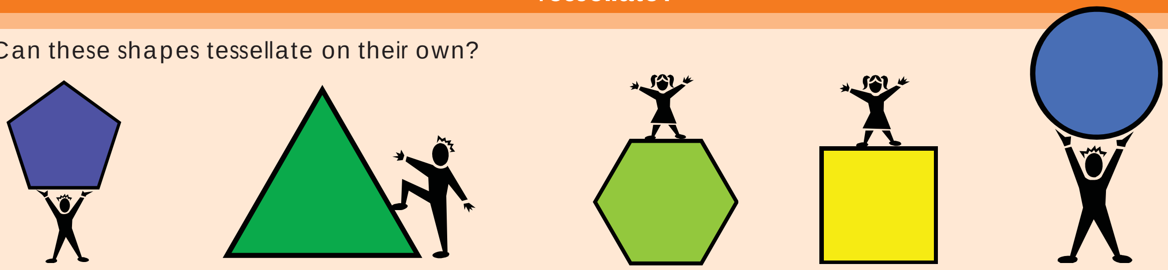
vii.


viii.


ix.


Tessellate?

Can these shapes tessellate on their own?



Sign:

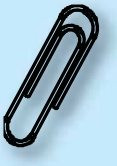
Date:

R15

Mass

What is mass? Look at the pictures below and discuss it.

Grams and kilograms are metric units used to measure how heavy objects are.



A paper clip weighs about 1g.

A book weighs about 1 kg.

Use a benchmark to estimate the mass of these objects in grams or kilograms. Check each object on a scale.

1. Will you use grams or kilograms to weigh the following:

a.

b.

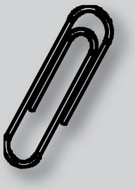
c.

d.

e.

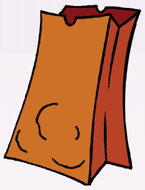
2. Use the object on the left to estimate whether the object is heavier or lighter than kilogram or gram.

1 kilogram



1 gram

a. Paper bag



b. Shoes

c. A loaf of bread

d. Pencils

e. Scissors

f. Calculator

3. Look at the scales and answer the questions.

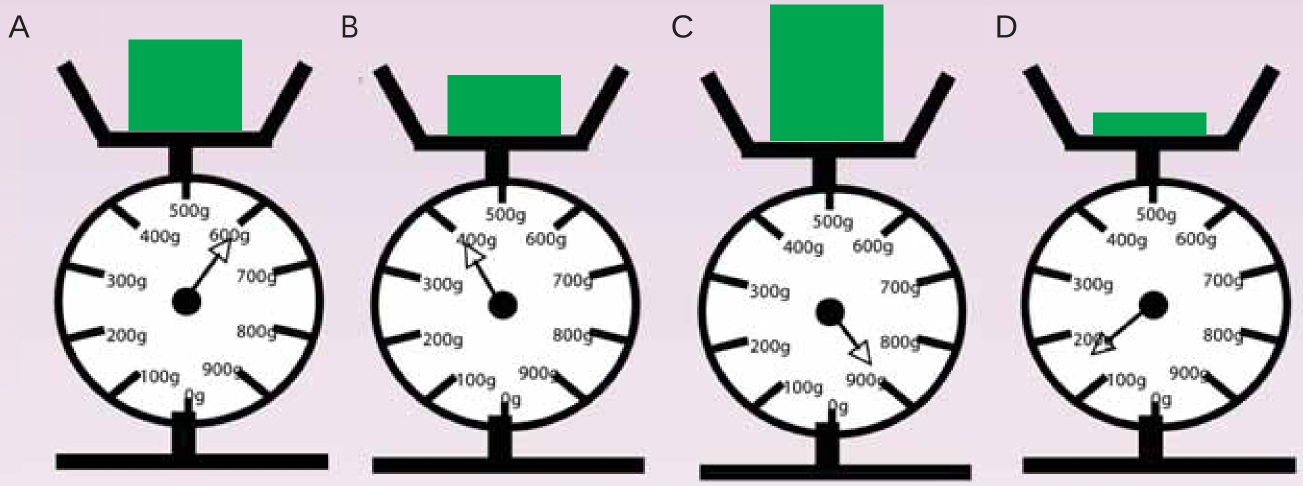
a. Which objects weigh less than 700 g? ____________________

b. Which objects weigh between 500 g and 1 kg? ____________________

c. Which is the heaviest object? ____________________

d. What is the total mass of objects A and D? ____________________

e. What is the total mass of objects B and C? ____________________



4. Look at the two containers.

Are they the same size? __________ Do they weigh the same? __________

The winning bag

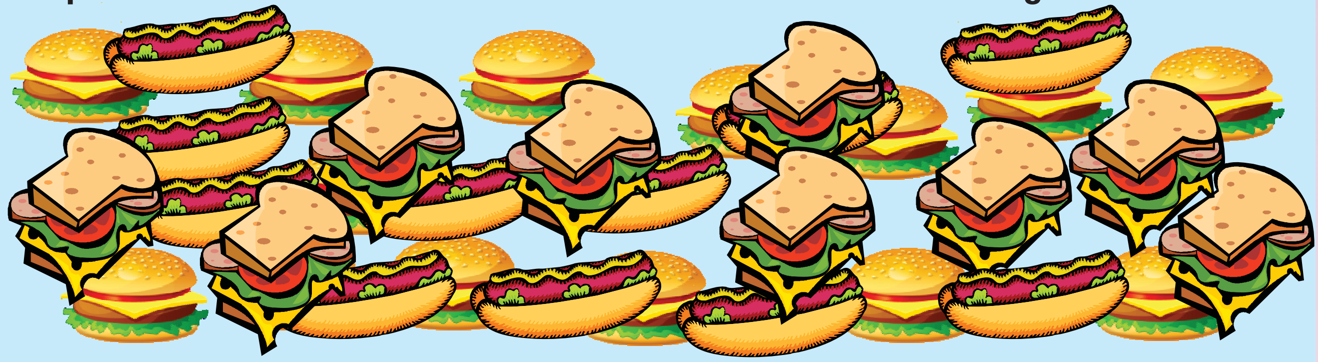
- Each learner should gather assorted objects from around the classroom and place them in his or her bag. Fill each bag until it is estimated that it weighs about 1 kilogram.
- Select one class member to weigh each bag. The winner is the learner whose bag weighs closest to 1 kilogram.
- You can repeat the activity by filling the bags with different objects.

Sign:

Date:

Data Handling

The picture shows us what kind of lunches children would like in a grade 5 class.

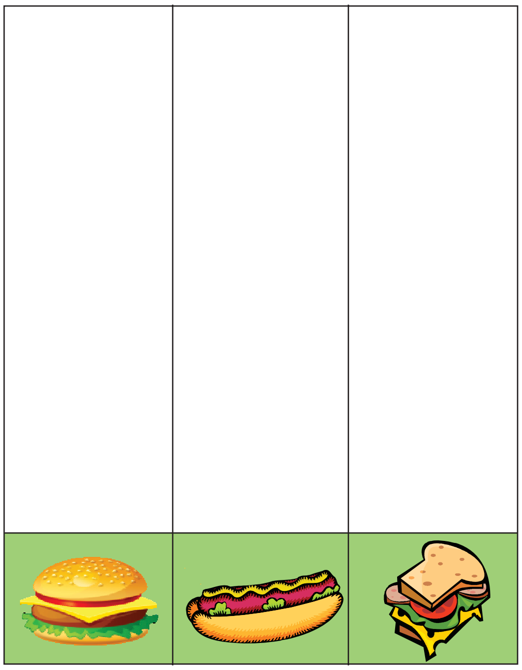


1. Sort the types of lunch liked by these grade 5 learners by completing the table.

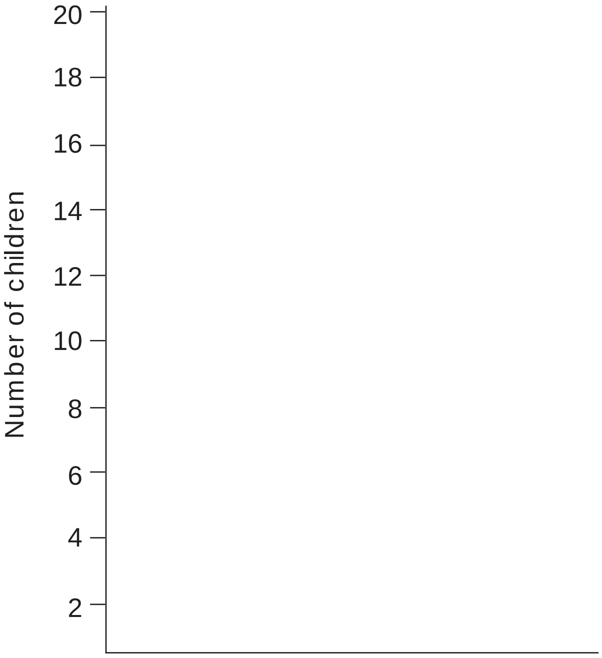
Type of lunch	Tally	Frequency
Hamburger		
Hotdog		
Sandwich		

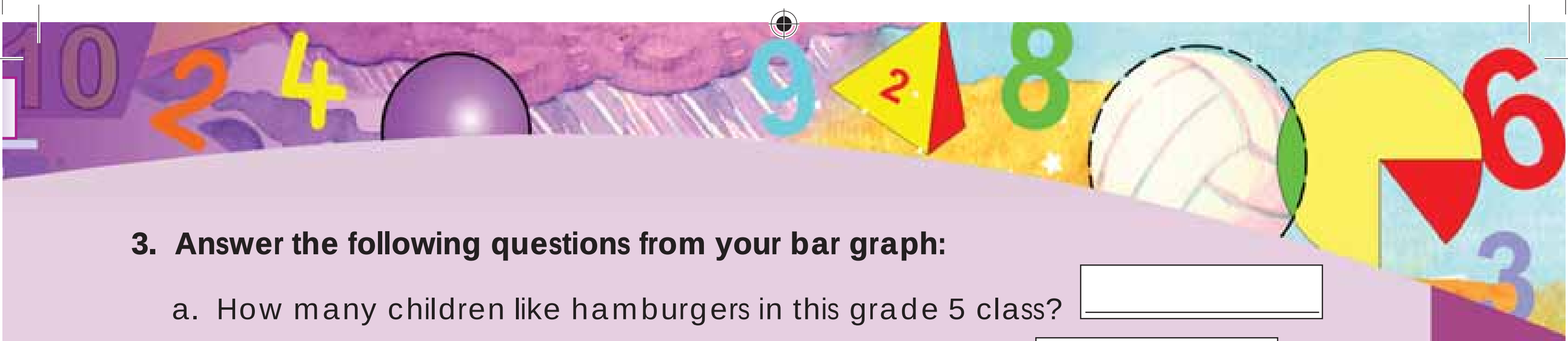
2. Use the information in the table above to draw a pictograph and bar graph.

Pictograph



Bar graph





3. **Answer the following questions from your bar graph:**

   a. How many children like hamburgers in this grade 5 class?

   b. How many children like hotdogs in this grade 5 class?

   c. How many children like sandwiches in this grade 5 class?

   d. Which is the most popular lunch in this grade 5 class?

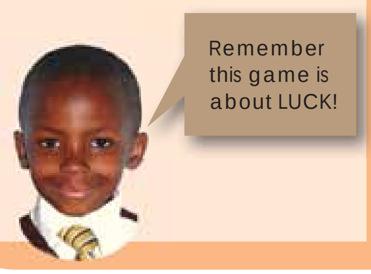
   e. Which is the least popular lunch in this grade 5 class?

4. **Write 3 headings: Certain to happen, Certain not to happen, Uncertain. Classify each of the following under one of those headings:**

   – Snow in our town or place tomorrow.
   – Hail in our town or place tomorrow.
   – Sneeze with open eyes.
   – I will be a day older this time tomorrow.
   – A woman will be a president of South Africa one day.
   – Our soccer team will win the league this year.
   – Somewhere in the world someone is being born right now.
   – Add one event of your own to each of the lists.

5. **Your mother wants to sell lunches for Grade 5 at the tuck shop. What advice will you give her? Write the answer in your answer book or on a seperate piece of paper.**

Who is lucky?



– Play in pairs.
– Use a coin again. Start the game by asking: “Who is lucky?”
– The first player will toss the coin ten times. Before tossing it he or she must guess on which side the coin will land the most often. If the player is correct the player will get 1 point.
– The second player does the same.
– In pairs do this ten times. The player with the highest score is the winner.

Sign:

Date:

Notes

Rainbow
WORKBOOKS

Grade 5

Mathematics

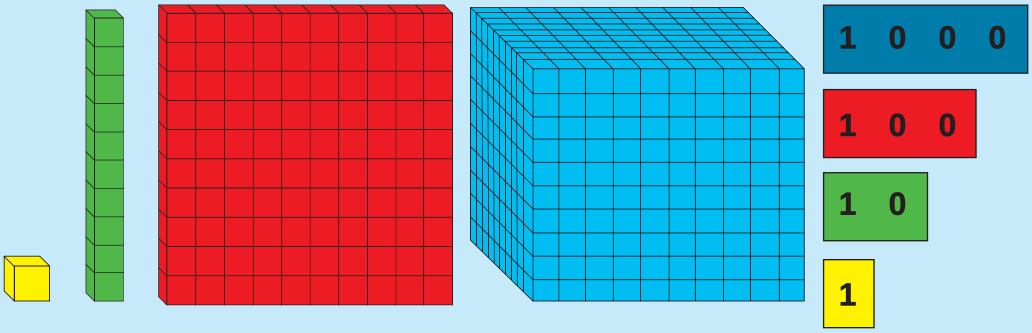
PART 2

WORKSHEETS
1 to 64

ENGLISH
Book 1

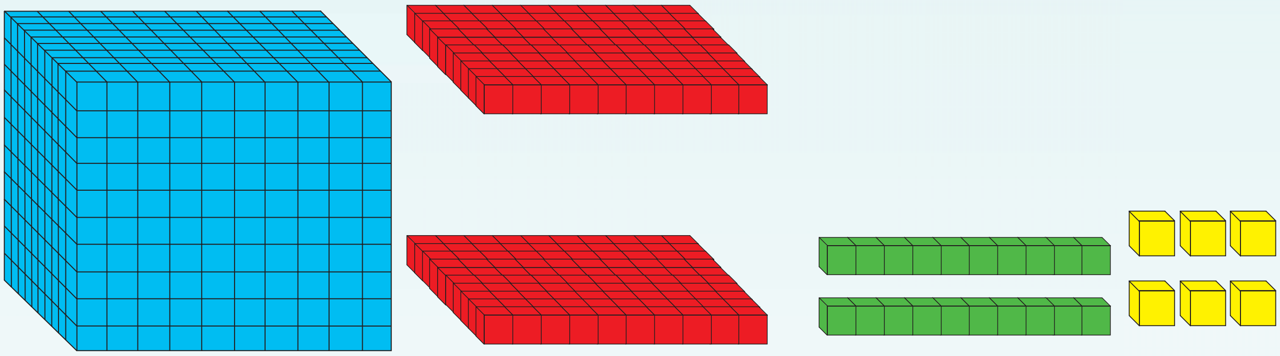
1a Numbers to 1 000

How many cubes are there in total? Match the place value cards with the base ten blocks.

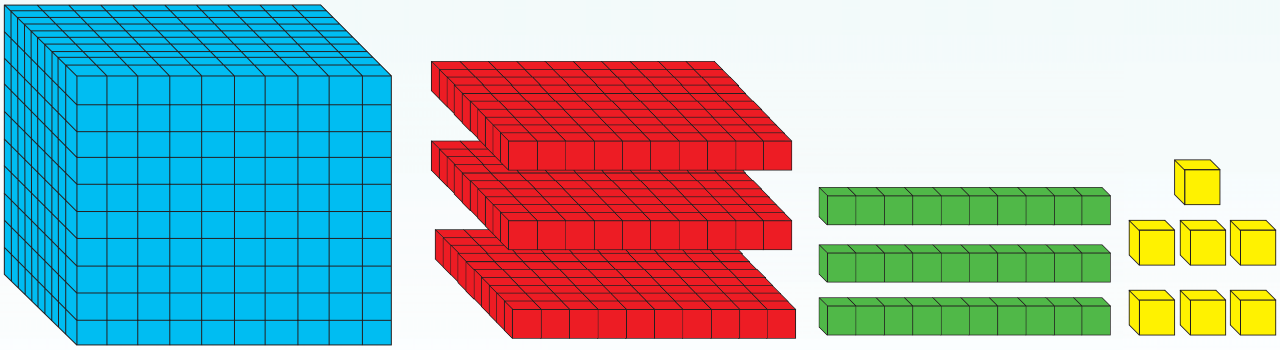


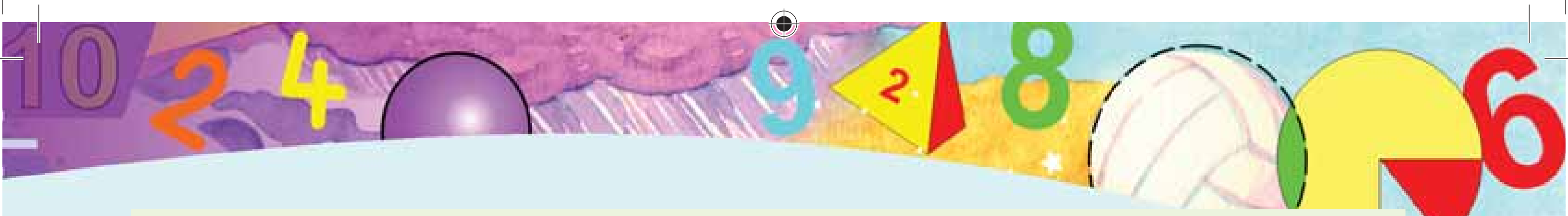
1. **Count the cubes.**

a.

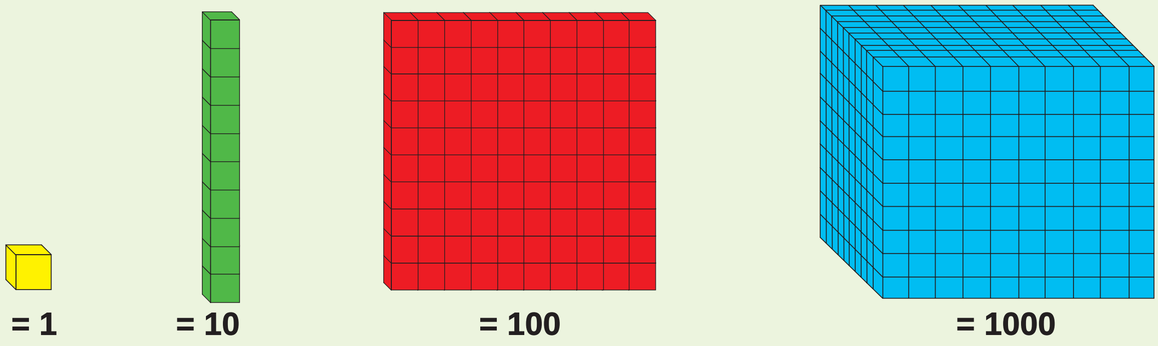


b.

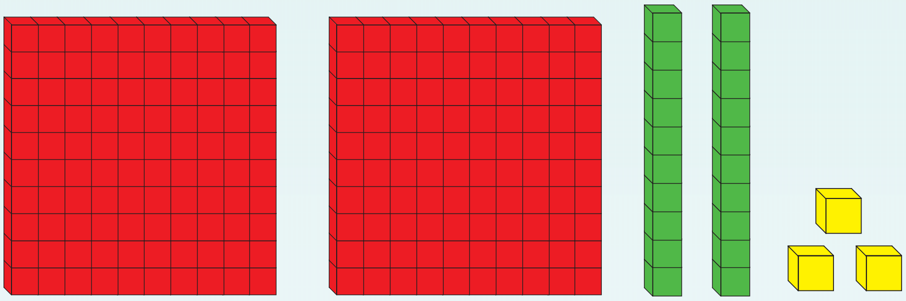




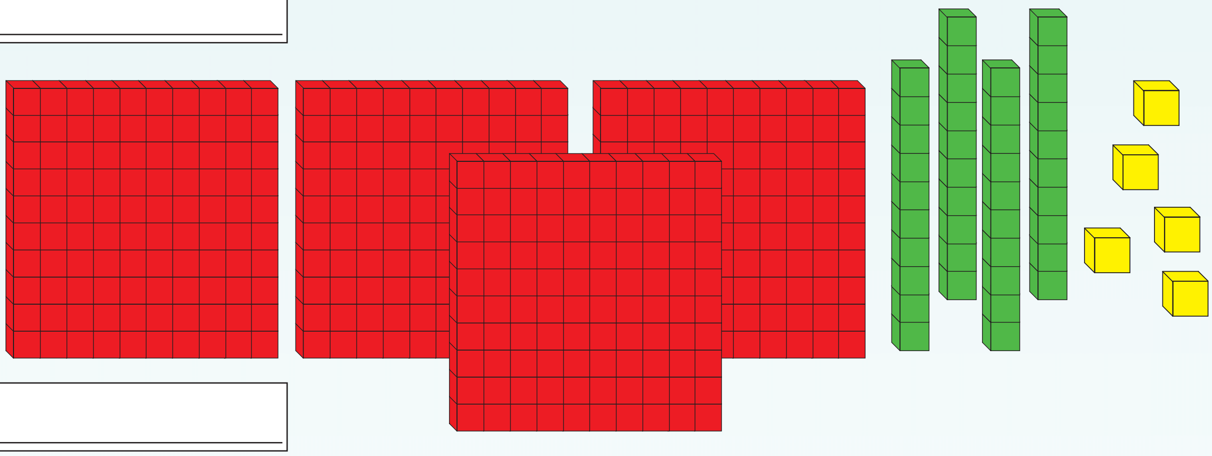
2. How many cubes are there in total?



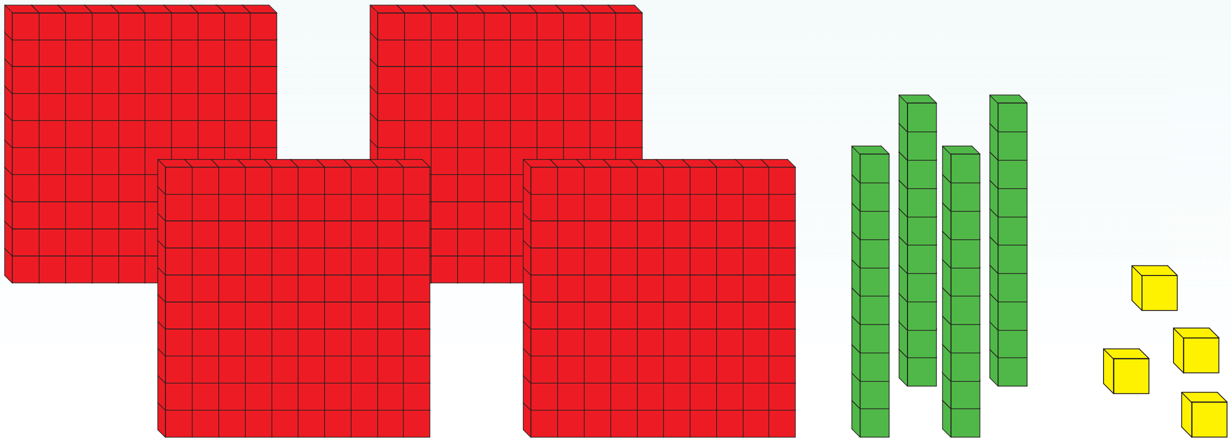
a.



b.



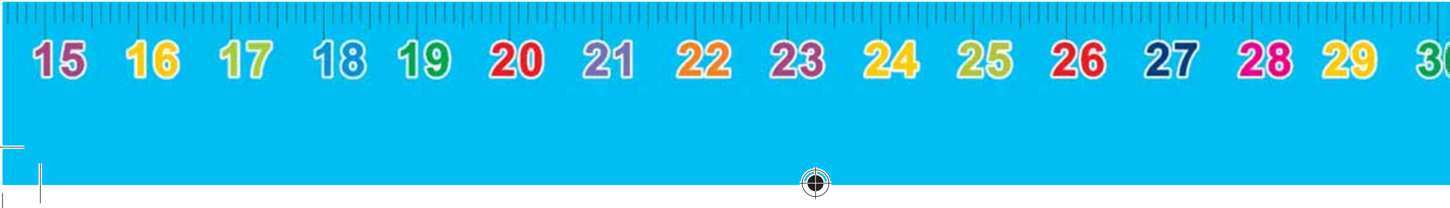
c.



Sign:

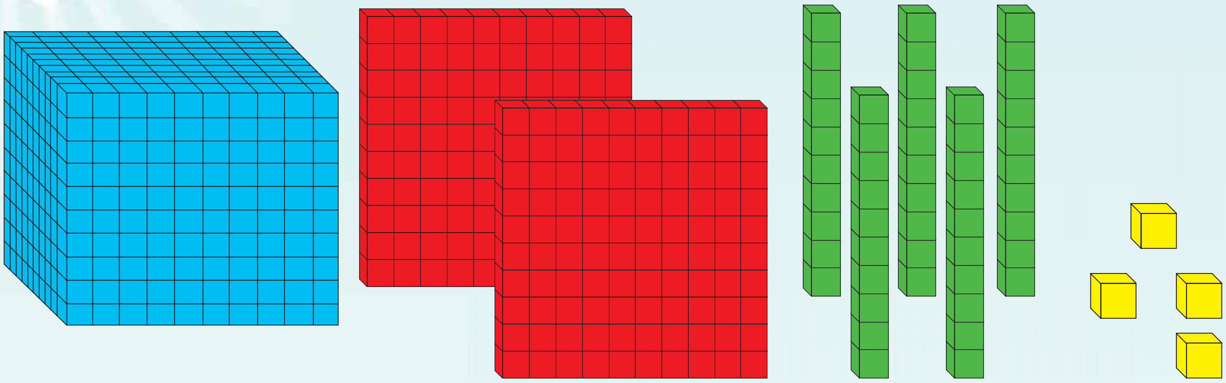
Date:

continued ☛

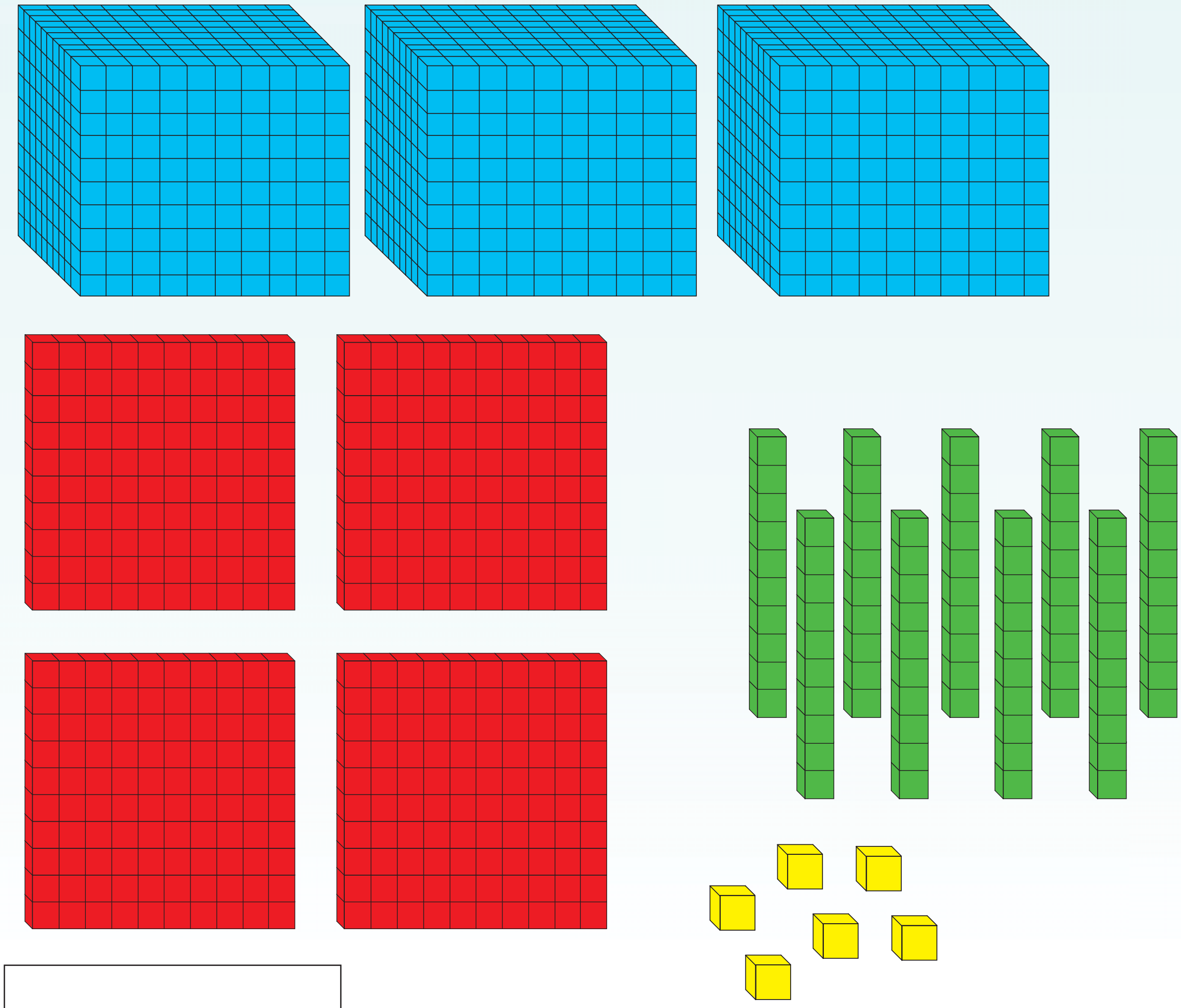


1b Numbers to 1 000 continued

d.

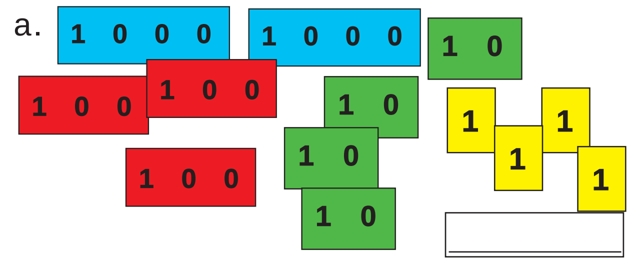


e.

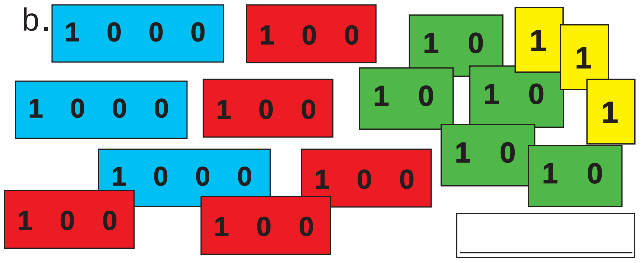


3. Add all the place value cards.

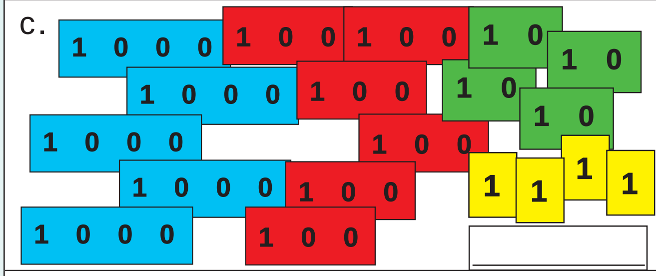
a.



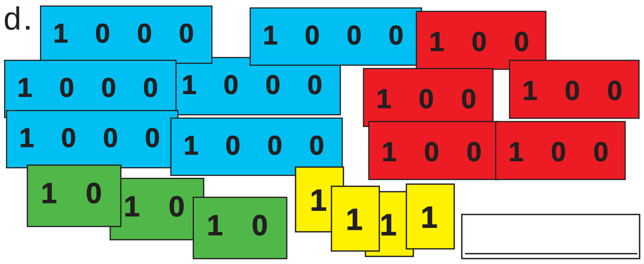
b.



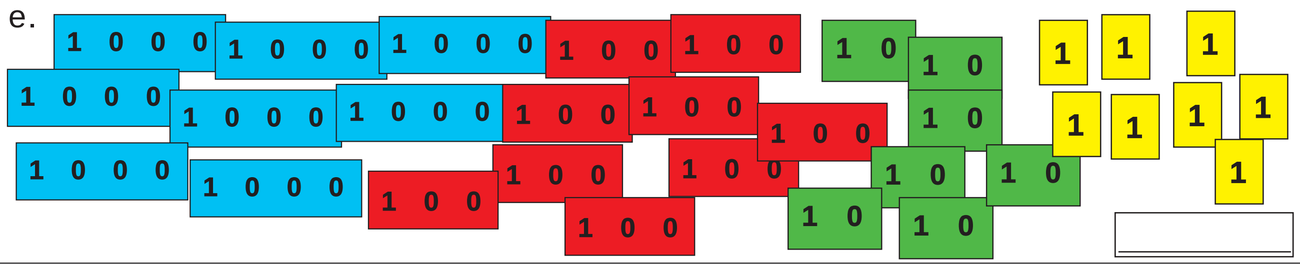
c.



d.



e.



4. Calculate the following:

a. 1 000 + 100 + 100 + 100 + 10 + 10 + 1 + 1 = ☐

b. 1 000 + 1 000 + 100 + 100 + 100 + 100 + 10 + 10 + 1 + 1 + 1 + 1 + 1 = ☐

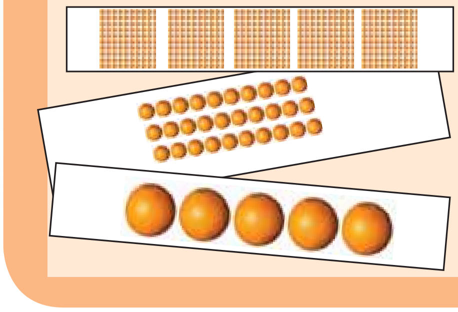
c. 1 000 + 100 + 1 000 + 100 + 10 + 100 + 1 + 1 = ☐

d. 1 000 + 1 + 100 + 10 + 1 000 + 10 + 100 + 100 + 1 = ☐

e. 10 + 10 + 100 + 100 + 1 000 + 10 + 1 + 100 + 1 000 = ☐

How quick are you?

What you need:
Cut–out 1.



What to do:

- Play in pairs.
- Cut out the cards from the back of your books.
- Place them face down on your desk.
- You choose five cards and your partner chooses five.
- See who can give the total the quickest.
- Add 1 000 to your answer.
- Check your partner's answer.
- Do the same with 6/7/8/9/10 cards. Remember to add a 1 000.
- The person with the most correct answers is the winner.

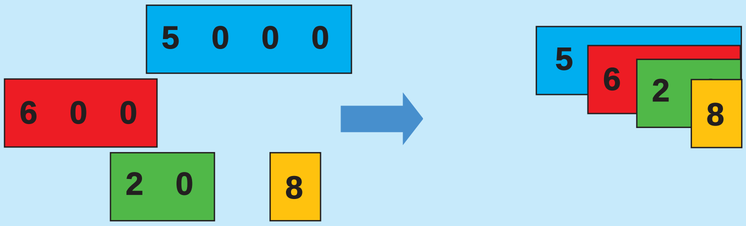
Sign:

Date:

2

Numbers 0 to 10 000

What number will these cards make?



5 628

In words it is

Five thousand six hundred and twenty–eight.

Use Cut–out 2 to show five different numbers.

1. Complete the following:

a. 8 000 + 400 + 30 + 2 = ______

b. 3 000 + 800 + 50 + 1 = ______

c. 1 000 + 200 + 80 + 7 = ______

d. 4 000 + 900 + 3 = ______

e. 7 000 + 7 = ______

2. Write the number in the correct column:

		Thousands	Hundreds	Tens	Units
a.	3 487	3	4	8	7
b.	4 204				
c.	6 003				
d.	8 710				
e.	6 080				

3. You need some coloured pencils to complete this question. Complete the following using the first question to guide you.

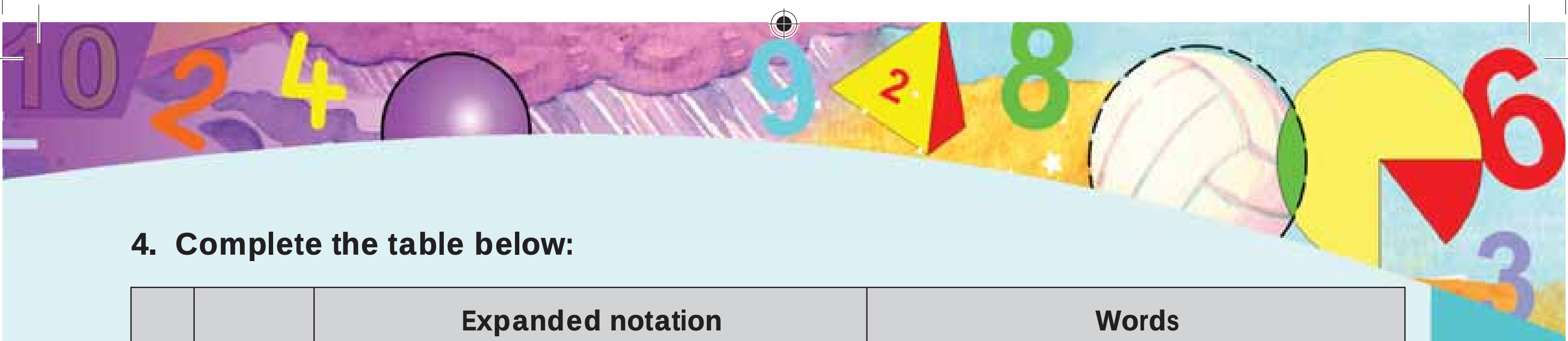
a. 8 183 = **8 thousands** + **1 hundred** + **8 tens** + **3 units**

b. 6 325 = ______

c. 5 555 = ______

d. 2 806 = ______

e. 6 005 = ______



4. Complete the table below:

		Expanded notation	Words
a.	6 578		
b.	3 254		
c.	5 504		
d.	9 540		
e.	8 003		

5. What is the value of the underlined digit?

a. $\underline{6}$ 214 ____________

b. 5 89$\underline{1}$ ____________

c. $\underline{5}$ 004 ____________

d. 1 $\underline{2}$40 ____________

e. 8 0$\underline{4}$0 ____________

6. What will you do to change the number?

a.	4 824	– 400	4 424
b.	3 154		154
c.	2 054		2 004
d.	3 879		3 070
e.	5 571		5 000

Find the number.

What to do:

- Bring a newspaper to class.
- Find five 4–digit numbers. Write them down.
- Share with the class what each number means.

What you need:

- A newspaper

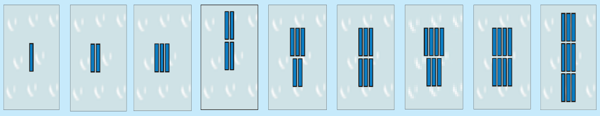
Sign:

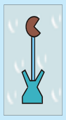
Date:

3

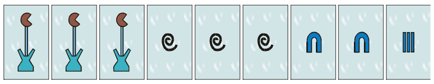
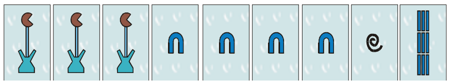
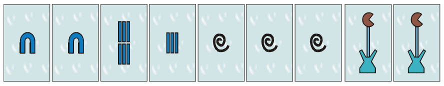
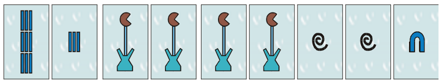
More numbers 0 to 10 000

Look at these Egyptian numbers. Make any 5–digit number using the Egyptian numbers.

Units 

tens  hundreds  thousands 

1. **Complete the table below:**

Egyptian number	Number	Expanded notation
	1 431	1 000 + 400 + 30 + 1
		
		
		
		

2. **Arrange the numbers from the smallest to the biggest.**

a. 6 923, 6 239, 6 329, 6 223, 6 326 ______

b. 3 210, 3 201, 3 012, 3 021, 3 011 ______

c. 7 776, 7 767, 7 677, 7 676, 7 656 ______

d. 8 008, 8 080, 8 808, 8 800, 8 000 ______

e. 3 555, 5 335, 5 533, 5 535, 3 535 ______

3. **Fill in < or >.**

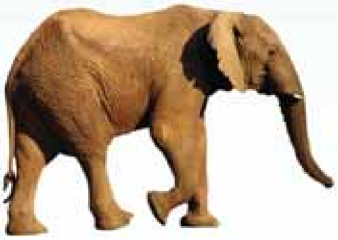
a. 6 923 > 6 293

b. 3 102 ______ 3 103

c. 5 333 ______ 6 222

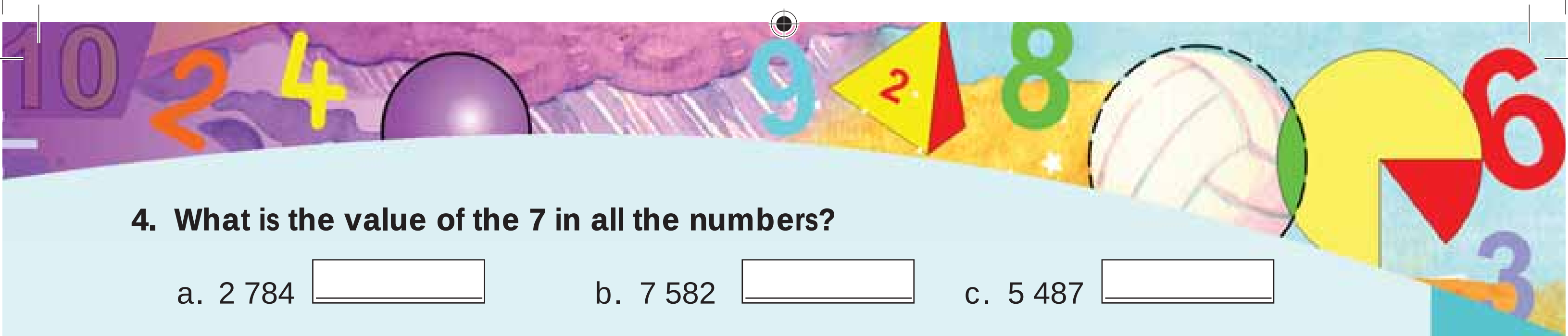
d. 2 222 ______ 2 220

e. 4 929 ______ 4 992



greater than

>



4. What is the value of the 7 in all the numbers?

a. 2 784

b. 7 582

c. 5 487

d. 7 519

e. 3 752

5. Complete the following: 3 6 2 9

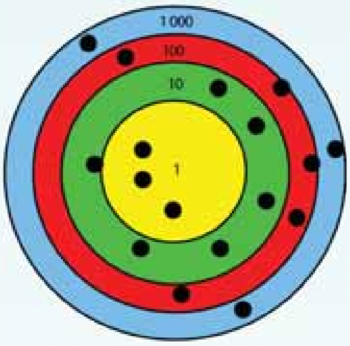
a. Use each digit once, make the smallest 4–digit number:

b. Use each digit once, make the largest 4–digit number:

c. You can use a digit twice, make the smallest 4–digit number:

d. You can use a digit twice, make the largest 4–digit number:

6. Complete the following:

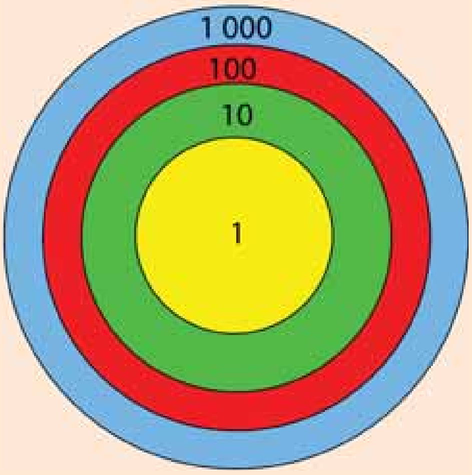


You tossed some stones on a game board. This was your result. If you add the numbers, what is the total?

Who can get the largest number?

What you need:
- The game board on the right.
- Small stones.

What to do:
- Toss your stone on the board.
- Write down the number it landed on.
- Do this ten times.
- Add the numbers.
- The winner in a group is the person with the highest score.



Sign:

Date:

4

Number sentences

Replace with a number

4 + 6 =	**5 + 5 =**	**8 + 2 =**	**3 + 7 =**
23 + 7 =	**24 + 6 =**	**22 + 8 =**	**25 + 5 =**
430 + 70 =	**440 + 60 =**	**420 x 880 =**	**450 + 50 =**
430 + 270 =	**440 + 260 =**	**420 + 280 =**	**450 + 250 =**

Term 1

1. Calculate the following.

Example: Commutative property of addition.

15 + 5 = 52 or 37 + 15 = 52

59 + 368 = 427 or 368 + 59 = 427

87 + 62 = 149 or 62 + 87 = 149

a. 22 + 35 = 35 +

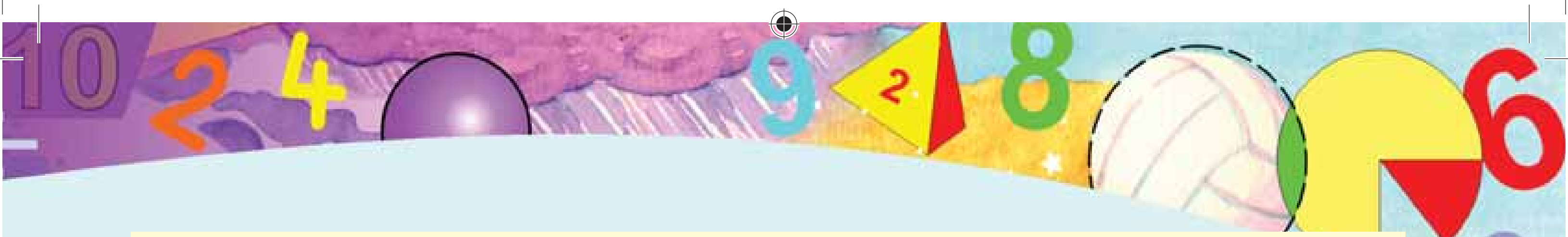
b. + 8 = + 9

c. 99 + 89 = 89 +

d. + 75 = + 76

e. 375 + 283 = 283 +

f. 389 + 742 =



Example: Associative property of addition.

(5 + 4) + 6 = 15 is the same as 5 + (4 + 6) = 15

(35 + 28) + 17 = 80 is the same as 35 + (28 + 17) = 80

99 + (7 + 45) = 151 is the same as (99 + 7) + 45 = 151

2. Calculate the following.

a. (5 + 7) + 8 = ☐ + (7 + 8)

b. (8 + 7) + 6 = 8 + (☐ + 6)

c. 9 + (1 + 4) = (☐ + ☐) +4

d. (3 + 8) + 7 = ☐ + (8 + 7)

e. (12 + 13) + 11 = 12 + (☐ + 11)

f. 20 +(3 + 8) = (☐ + ☐) = ☐

Solve the problems.

A man buys cell phones for all his stores. He buys 6 789 black phones, 1 567 brown cell phones and 4 532 red cell phones. How many cell phones did he buy altogether?

a. What is the question? ☐

b. What are the numbers? ☐

c. What basic operation/s (+, -, x, ÷) will you use? ☐

d. Write down the number sentence? ☐

e. Do your calculation.

☐

Sign:

Date:

5 More number sentences

Write number sentences using +, - and =. Each number sentence should include a 1 or a 0. What do you notice when you calculate it?

4	+	0	=	4					

1. Complete the following.

a. 10 = 5 + ☐, 10 – 5 = ☐

b. 10 = 7 + ☐, 10 – ☐ = 3

c. 10 = 4 + ☐, 10 – 4 = ☐

d. 10 = 6 + ☐, 10 – ☐ = 4

e. 10 = 2 + ☐, 10 – 2 = ☐

f. 10 = 9 + ☐, 10 – ☐ = 1

2. Complete the following.

a. 100 = 50 + ☐, 100 – 50 = ☐

b. 100 = 70 + ☐, 100 – ☐ = 30

c. 100 = 40 + ☐, 100 – 40 = ☐

d. 100 = 60 + ☐, 100 – ☐ = 40

e. 100 = 20 + ☐, 100 – 20 = ☐

f. 100 = 90 + ☐, 100 – ☐ = 10

3. Complete the following.

a. 1 000 = 500 + ☐, 1 000 – 500 = ☐

b. 1000 = 700 + ☐, 1 000 – ☐ = 300

c. 1 000 = 400 + ☐, 1 000 – 400 = ☐

d. 1 000 = 600 + ☐, 1 000 – ☐ = 400

e. 1 000 = 200 + ☐, 1 000 – 200 = ☐

f. 1 000 = 900 + ☐, 1 000 – ☐ = 100

4. Complete the following.

a. 100 = 57 + ☐, 100 – 57 = ☐

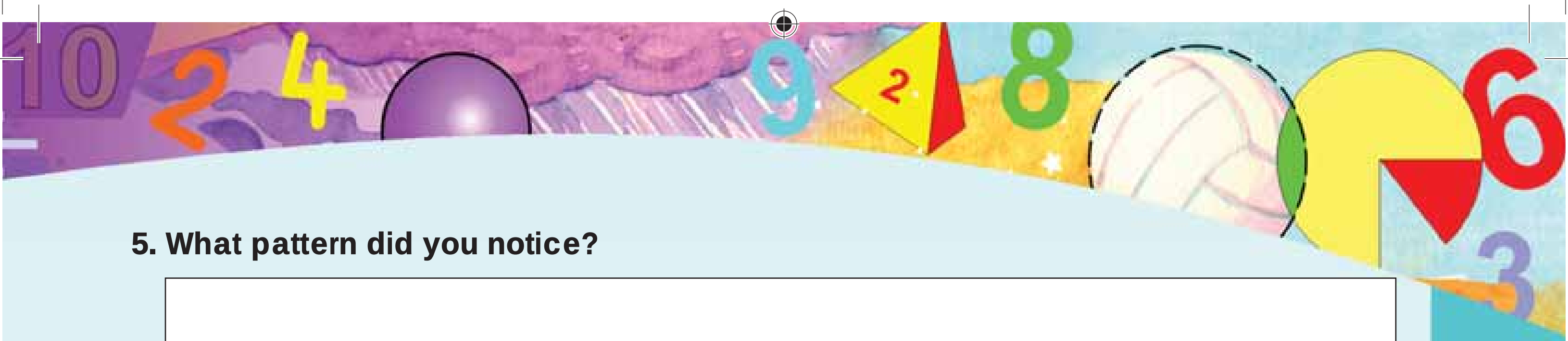
b. 100 = 72 + ☐, 100 – ☐ = 28

c. 100 = 43 + ☐, 100 – 43 = ☐

d. 100 = 69 + ☐, 100 – ☐ = 31

e. 100 = 25 + ☐, 100 – 25 = ☐

f. 100 = 91 + ☐, 100 – ☐ = 9



5. What pattern did you notice?

6. Say if the following is true or false.

a. 6 + 5 = 5 + 6

b. 9 + 6 = 6 – 9

c. 12 – 4 = 4 – 12

d. 15 – 9 = 9 + 15

e. 8 + 7 = 7 – 8

f. 20 – 10 = 10 – 20

7. Solve the problem.

The price for a container of wheat is R8 231. Since some of the wheat is spoiled, the price is decreased by R3 789. What price does a shop owner pay for the container of wheat? (You will need some extra paper to do this activity.)

a. What is the question?

b. What are the numbers?

c. What basic operation (+, -, x, ÷) will you use?

d. Write down the number sentence?

e. Do your calculation.

Combinations

Here is one combination that will give you 20. How many more combinations can you come up with?

13 + 17 =

Sign:

Date:

6a Addition up to 4-digit numbers

What is the difference between the numbers in each of these rows?

100	200	300	400	500	600	700	800	900	1 000
101	201	301	401	501	601	701	801	901	1 001
110	210	310	410	510	610	710	810	910	1 010
995	1 995	2 995	3 995	4 995	5 995	6 995	7 995	8 995	9 995
400	1 400	2 400	3 400	4 400	5 400	6 400	7 400	8 400	9 400

1. What number comes next?

a. 30, 40, 50, ☐

b. 600, 700, 800, ☐

c. 2 545, 3 545, 4 545, ☐

d. 2 605, 2 705, 2 805, ☐

e. 5 484, 6 484, 7 484, ☐

f. 1 610, 1 710, 1 810, ☐

2. Complete the table by adding to the given number in the first column.

Number	Add 1 000	Add 100	Add10	Add 1
3 548				
8 354				
2 632				
1 036				
4 999				

3. **Fill in the missing number:**

a. 8 + ☐ = 10

b. 15 + ☐ = 20

c. 80 + ☐ = 100

d. 72 + ☐ = 100

e. 150 + ☐ = 200

f. 332 + ☐ = 350

g. 325 + ☐ = 400

h. 1 750 + ☐ = 2 000

i. 3 220 + ☐ = 3 500

j. 5 440 + ☐ = 6 000

4. **Complete the table by filling in the missing numbers.**

		Complete up to the next 10.	**Complete up to the next 100.**	**Complete up to the next 1 000.**
a.	457	457 + $\boxed{3}$ = 460	457 + ☐ = 500	
b.	125	125 + ☐ = 130	125 +☐ = 200	125 + ☐ = 1 000
c.	575	575 + ☐ = 580	575 + ☐ = 600	575 + ☐ = 1 000
d.	853	853 + ☐ = 860	853 + ☐ = 900	853 + ☐ = 1 000
e.	976	976 + ☐ =	976 + ☐ =	976 + ☐ =

Sign:

Date:

continued ☛

6b Addition up to 4-digit numbers continued

Examples:

Example 1:

5 637+ 2 358
= 5 000 + 2 000 + 600 + 300 + 30 + 50 + 7 + 8
= 7 000 + 900 + 80 + 15
= 7 000 + 900 + 80 + 10 + 5
= 7 000 + 900 + 90 + 5
= 7 995

Example 2:

	5	6	3	7	
+	2	3	5	8	
			1	5	(7 + 8)
			8	0	(30 + 50)
		9	0	0	(600 + 300)
+	7	0	0	0	(5 000 + 2 000)
	7	9	9	5	

5. Use both methods above to calculate the following.

a. 3 268 + 1 211 =

b. 5 455 + 3 540 =

Continue on an extra sheet of paper.

c. 4 765 + 3 219 =

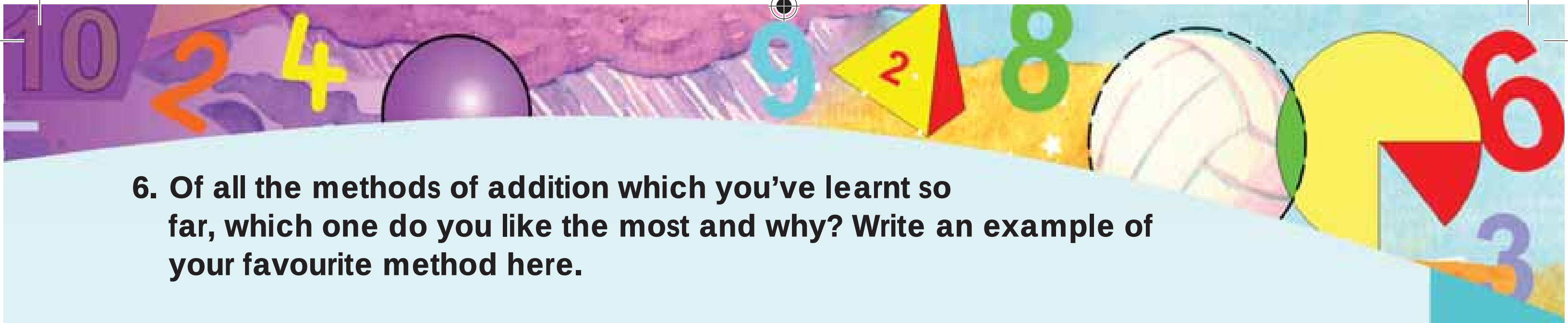
d. 7 214 + 1 397 =

Continue on an extra sheet of paper.

e. 6 984 + 659 =

f. 8 647 + 768 =

Continue on an extra sheet of paper.



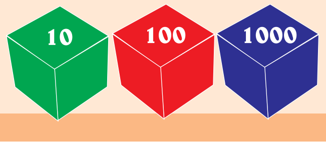
6. Of all the methods of addition which you've learnt so far, which one do you like the most and why? Write an example of your favourite method here.

Continue on an extra sheet of paper.

+

What is the size of your number?

What you need:
- Use the 10s, 100s and 1 000s dice made before.
- Piece of paper.



What to do:
- Individual game against a group or the class.
- Roll the green 10s dice.
- Add the number landed on, to the first number on the blue card. Write your addition sum on a piece of paper.
- Do the same with the 2nd to the 5th number.
- Repeat the activity with the 100 s and 1 000s dice.
- Learners check each others' addition sums.
- The winner is the person with the most correct answers.

3 428
2 573
4 264
5 638
3 242

Sign:

Date:

7a Addition problems

How fast can you answer these?

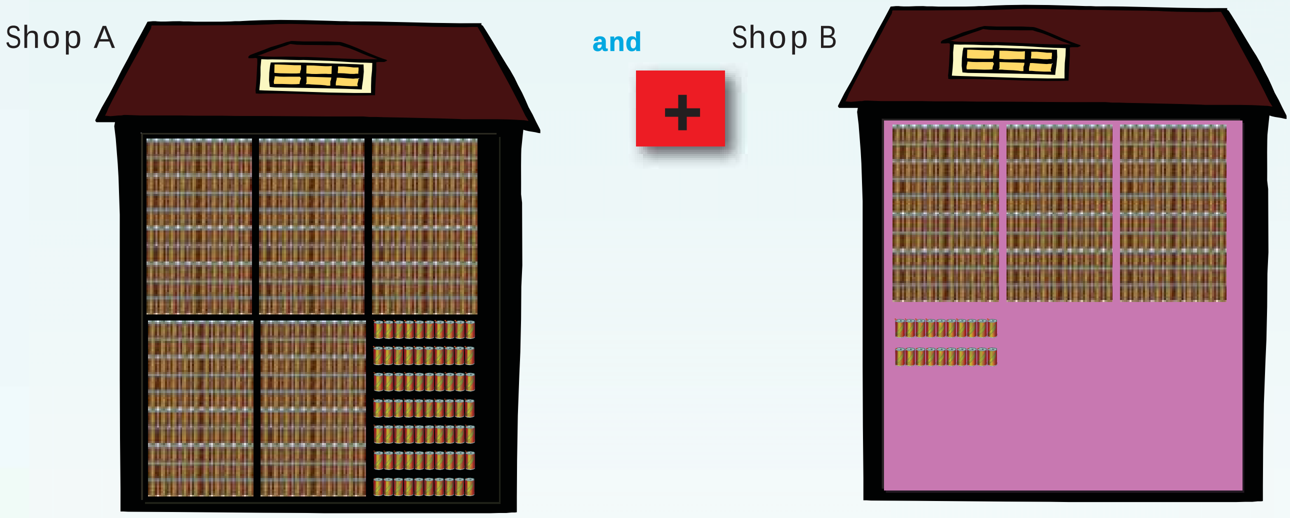
- **Add** 2 000 + 1 000 + 300 + 50 + 8 +2.
- What is the **sum of** 5 000 and 2 000?
- How much is 6 000 and 300 **altogether**?
- What three numbers have a **total** of 500?
- Add 37 **and** 12.
- What is the **sum of** 200 and 36?
- How much is 95 and 25 **altogether**?
- Which three numbers have a **total of** 100?

How did the blue words help you?

What word will help you to choose the operation?

1. **Solve the following problems. The pictures may guide you. Also use the blue word.**

   a. Shop A sells 570 cans of cold drink. Shop B sells 320 cans of cold drink. How many cans of cold drink do both shops sell altogether.



500 + 300 + 70 + ______

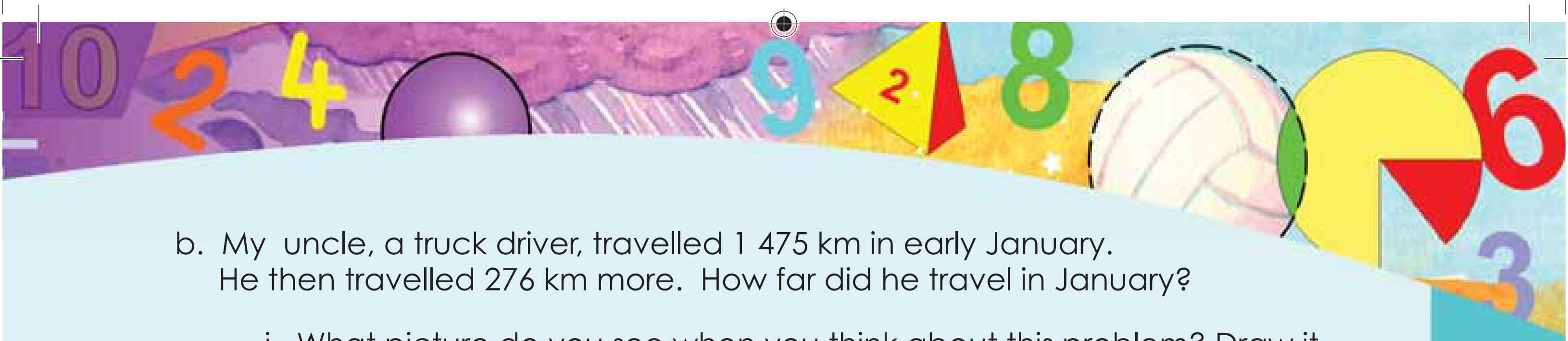
= ______

= ______

= ______

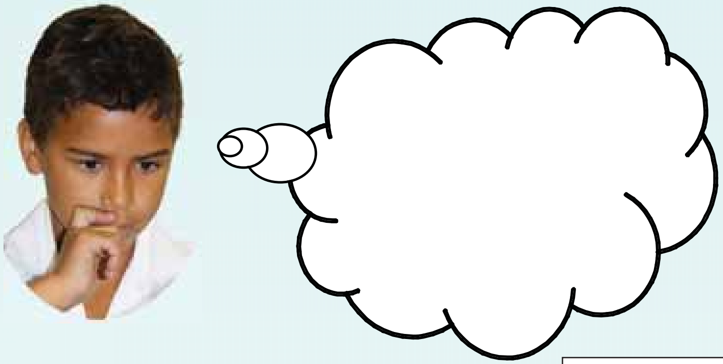
= ______

Try to form a picture in your mind. These are the number of cans.



b. My uncle, a truck driver, travelled 1 475 km in early January. He then travelled 276 km more. How far did he travel in January?

i. What picture do you see when you think about this problem? Draw it.



ii. What operation should you use?

iii. Solve the problem. Write it down in your writing book.

Continue on an extra sheet of paper.

c. Jabu collects 2 389 bottle caps. Sindi collects 3 983 bottle caps. How many bottle caps did they collect altogether?

Continue on an extra sheet of paper.

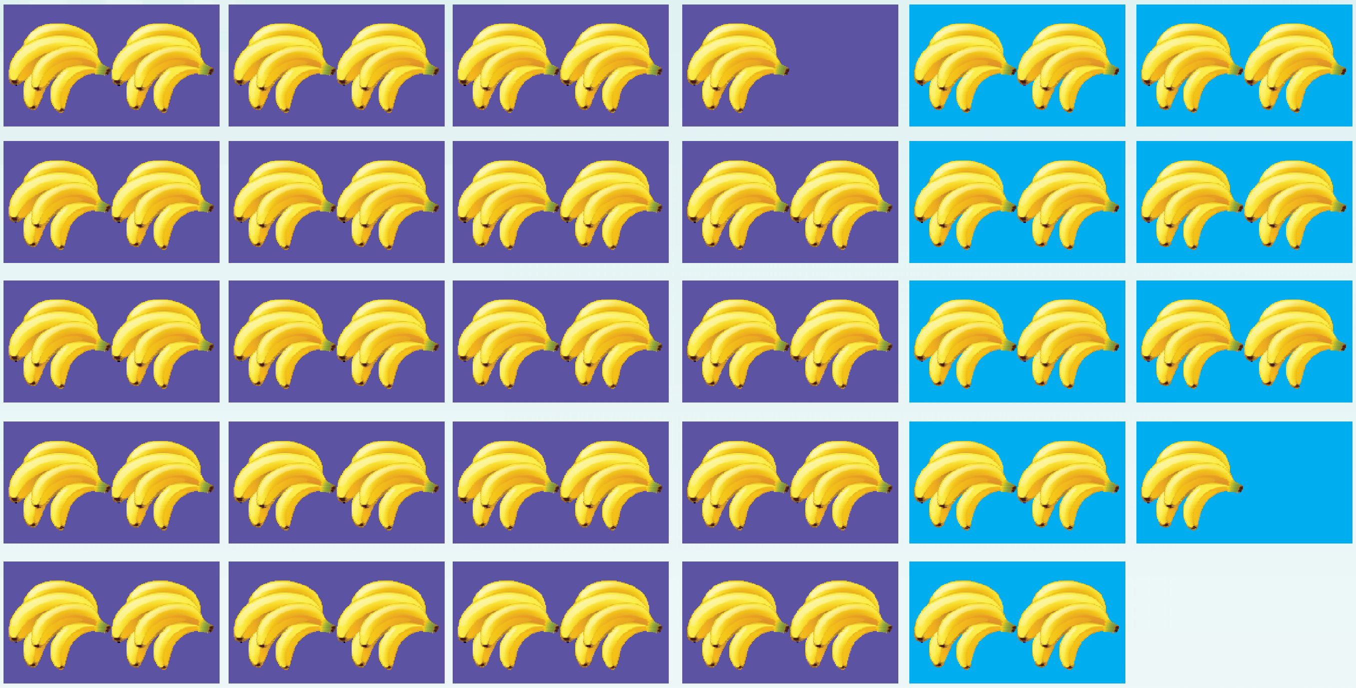
Sign:

Date:

continued ☛

7b Addition Problems continued

2. Look at the pictures below and write an interesting addition word sum.



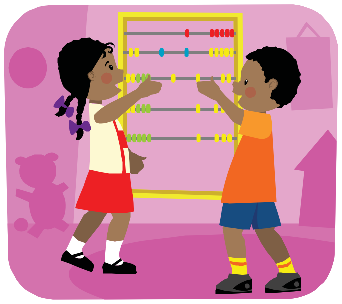
Continue on an extra sheet of paper.

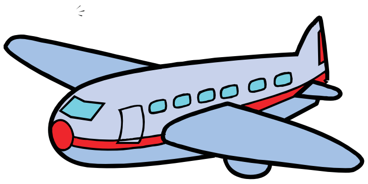
3. Write an appropriate and interesting addition sum for: 6 594 and 3 485. Solve it.

Continue on an extra sheet of paper.

Story sums

Write three of your own maths stories, rhymes or poems. Remember they should include numbers.





Compare your work with the work of a friend. Are they similar?

Sign:

Date:

8a Subtraction from 4-digit numbers

What is the difference between the numbers?

10	20	30	40	50	60	70	80	90	100
108	208	308	408	508	608	708	808	908	1008
150	250	350	450	550	650	750	850	950	1050
3	1 003	2 003	3 003	4 003	5 003	6 003	7 003	8 003	9 003
990	1 990	2 990	3 990	4 990	5 990	6 990	7 990	8 990	9 990

1. What number comes next?

a. 80, 70, 60,

b. 900, 800, 700,

c. 787, 687, 587,

d. 2 365, 2 355, 2 345,

e. 9 451, 8 451, 7 451,

f. 7 545, 6 545, 5 545,

2. Complete the table by subtracting from the given number:

Number	Subtract 1	Subtract 10	Subtract 100	Subtract 1 000
5 132				
1 874				
8 412				
4 657				
3 528				

3. Fill in the missing number:

a. 3 – ____ = 0

b. 15 – ____ = 10

c. 37 – ____ = 30

d. 51 – ____ = 50

e. 116 – ____ =100

f. 150 – ____ = 120

g. 568 – ____ = 500

h. 984 – ____ = 800

i. 1 952 – ____ = 1 500

j. 9 407 – ____ = 5 000

4. Complete the table by filling in the missing numbers.

		Complete up to the previous 10	Complete up to the previous 100.	Complete up to the previous 1 000.
a.	48	48 – ____ = 40		
b.	325	325– ____ = 320	325 – ____ = 300	
c.	553	553 – ____ = 550	553 – ____ = 500	
d.	1 689	1 689 – ____ = 1 680	1689 – ____ = 1 600	1 689 – ____ = 1 000
e.	6 584	6 584 – ____ =	6 584 – ____ =	6 584 – ____ =

Sign:

Date:

continued ☛

8b Subtraction from 4-digit numbers
continued

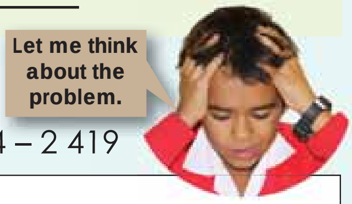
Examples:

Example 1:

4 328 – 3 145
= (4 000 – 3 000) + (300 – 100) + (20 – 40) + (8 – 5)
= (4 000 – 3 000) + (200 – 100) + (120 – 40) + (8 – 5)
= 1 000 + 100 + 80 + 3
= 1 183

Example 2:

	4	3	2	8	
–	3	1	4	5	
				3	(8 – 5)
			8	0	(120 – 40)
		1	0	0	(200 – 100)
+	1	0	0	0	(4 000 – 3 000)
	1	1	8	3	



5. Use both methods to solve the problem.

a. 3 812 – 2 708

b. 5 684 – 2 419

Continue on an extra sheet of paper.

c. 8 148 – 2 077

d. 2 632 – 1 284

Continue on an extra sheet of paper.

e. 9 657 – 3 489

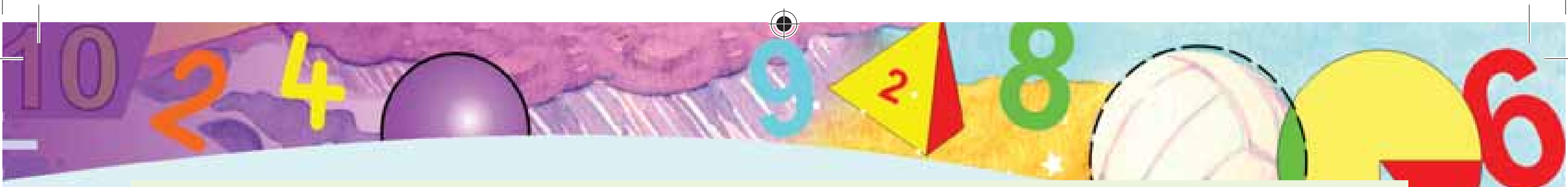
f. 7 210 – 4 144

Continue on an extra sheet of paper.

g. What method do you prefer? Why?

Continue on an extra sheet of paper.

Term 1



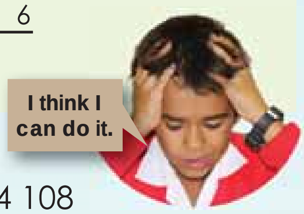
Examples:

Example 1:

7 424 – 1 888
= (7 000 – 1 000) + (400 – 800) + (20 – 80) + (4 – 8)
= (7 000 – 1 000) + (400 – 800) + (10 – 80) + (14 – 8)
= (7 000 – 1 000) + (300 – 800) + (110 – 80) + (14 – 8)
= (6 000 – 1 000) + (1 300 – 800) + (110 – 80) + (14 – 8)
= 5 000 + 500 + 30 + 6
= 5 536

Example 2:

	7	4	2	4	
–	1	8	8	8	
				6	(14 – 8)
			3	0	(110 – 80)
		5	0	0	(1 300 – 800)
+	5	0	0	0	(6 000 – 1 000)
	5	5	3	6	



6. Use both methods to solve the problem.

a. 3 767 – 2 459

b. 8 715 – 4 108

Continue on an extra sheet of paper.

c. 6 449 – 5 655

d. 9 564 – 6 295

Continue on an extra sheet of paper.

e. 7 359 – 2 399

f. 5 222 – 4 653

Continue on an extra sheet of paper.

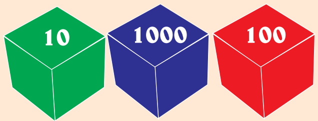
g. What method do you prefer? Why?

Continue on an extra sheet of paper.

–

What is the size of your number?

What you need:
- Use the 10s, 100s and 1 000s dice you made before.
- Piece of paper.



What to do:
- Individual game against a group or the class.
- Roll the 10s dice.
- Subtract the number landed on from the first number on the blue card. Write your subtraction sum on a piece of paper.
- Do the same with the 2nd to the 5th number.
- Repeat the activity with the 100s and 1 000s dice.
- Learners check each others' subtraction sums.
- The winner is the person with the most correct answers.

3 784
4 278
5 734
6 234
7 342

Sign:

Date:

9a Subtraction problems

How fast can you answer these?

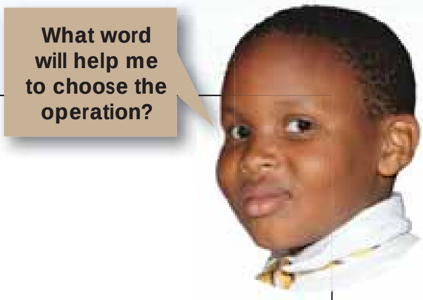
- Subtract 40 000 from 80 000.
- What is the difference between 7 800 and 5 400?
- Minus 90 000 and 55.
- Decrease 100 000 by 10 000.
- Subtract 450 from 19 000.
- Reduce 50 000 by 1 000.
- Take 15 000 from 45 000.
- Take away 25 000 from 100 000.

Term 1

1. Solve the following problems. The pictures may guide you. Also look at the blue word.

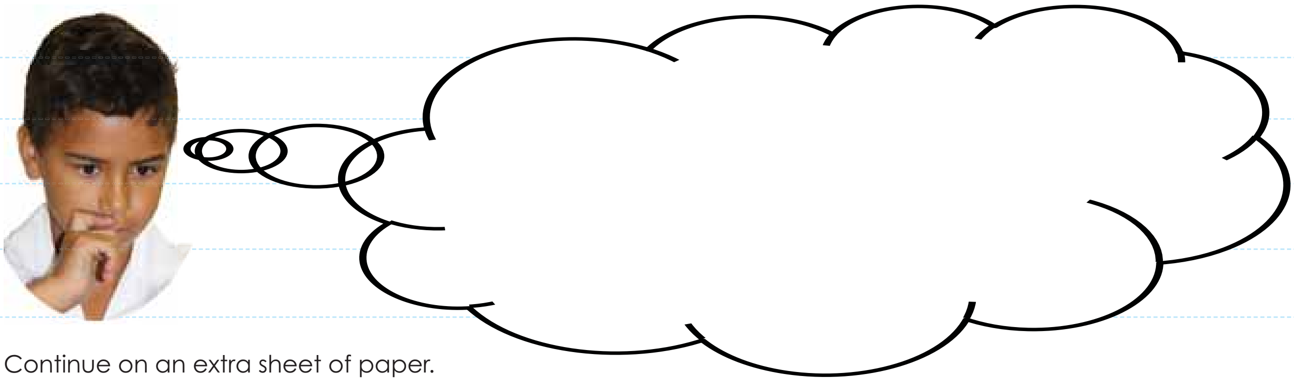
a. Veronica has 780 postage stamps in her collection.
Lindiwe has 410 fewer stamps. How many stamps does Lindiwe have?

780 – 410
=
=
=
=



b. James is selling stamps. He sold 4 387 on Monday. By the end of Tuesday he had sold 8 000 stamps. How many stamps did he sell on Tuesday?

i. What picture do you see when you think about this problem? Draw it.



Continue on an extra sheet of paper.

ii. What operation should you use?

Continue on an extra sheet of paper.

iii. Solve the problem. Write it down in your workbook.

Continue on an extra sheet of paper.

Sign:

Date:

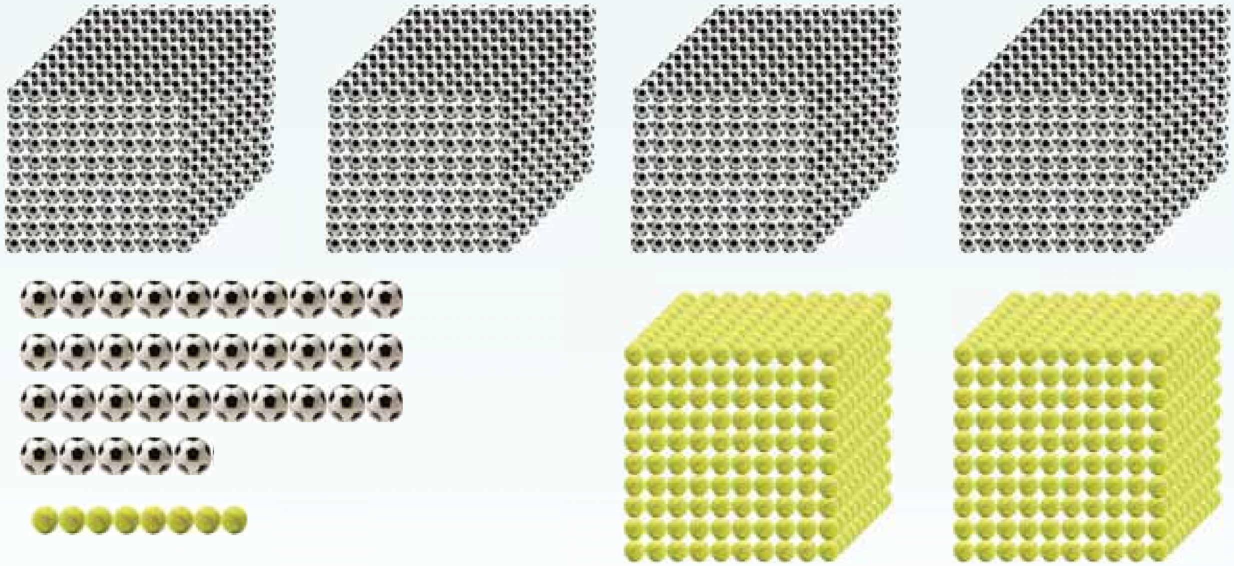
continued ☛

9b Subtraction Problems continued

c. My aunt makes jewellery. She buys 9 525 beads. She uses 4 250 to make some jewellery. How many beads does she have left?

Continue on an extra sheet of paper.

2. Look at the pictures below of soccer balls and tennis balls and write an interesting subtraction word sum.



Continue on an extra sheet of paper.

3. Write an appropriate and interesting word sum for: 45 879 and 38 238. Solve it.

Continue on an extra sheet of paper.

At the party – Make up your own story

Sign:

Date:

10a

Addition and Subtraction problems up to 5-digit numbers

How fast can you answer these?

- **Add** 6 000 and 800.
- **Subtract** 600 from 4 000.
- 9 000 **plus** 330 is …
- The **sum** of 2 500 **and** 5 500 is …
- **Take** 3 000 **from** 7 000.
- **Decrease** 5 500 by 2 300.
- **Increase** 1500 by 2 800.
- 1 250 **and** 4 250 are …

+

−

Use the colours to help you to solve the word sums.

1. Complete the table below.

	Add 300	Subtract 600	Add 4 000	Subtract 3 000
3 500				
6 200				
5 820				
4 650				
5 999				

2. Answer the following questions:

a. What is the opposite of + ? ☐

b. What is the opposite of ÷ ? ☐

3. Calculate the following.

a. 7 544 + 1 378 =

b. 4 245 + 1 996 =

Continue on an extra sheet of paper.

c. 8 678 – 3 482 =

d. 3 124 – 1 657 =

Continue on an extra sheet of paper.

4. Check your answers for each of the above calculations, using the opposite operation.

Continue on an extra sheet of paper.

Sign:

Date:

continued ☛

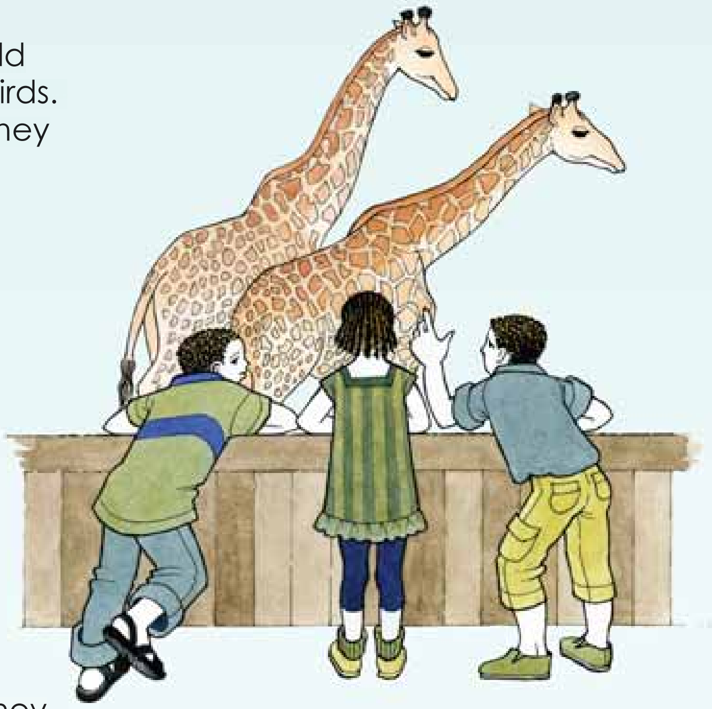
10b Addition and Subtraction problems up to 5-digit numbers continued

5. Solve the following problems:

a. Suzy and her brothers were counting animals and birds at the zoo. Suzy counted 234 animals and her brother Thabo counted 1 004 birds. Their younger brother Andile counted 538 animals.

i. How many animals and birds were counted in all?

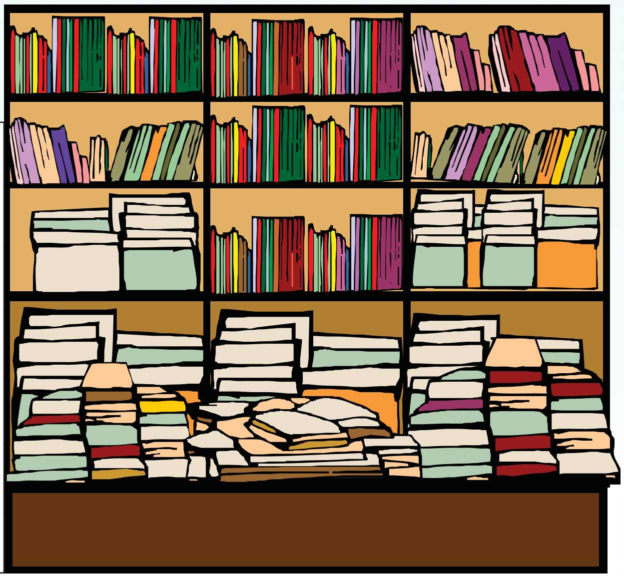
ii. The guide told them that they could expect to see 2 000 animals and birds. How many animals and birds did they not see?



b. A book store had 1 250 books. They bought another 1 200 books. Then they had a sale and sold 1625 books.

i. How many books were on the shelves when the sale started?

Continue on an extra sheet of paper.



ii. How many books were left on the shelves after the sale?

Continue on an extra sheet of paper.

iii. If the book store sells another 500 books, how many books will be left?

Continue on an extra sheet of paper.

Coloured numbers

＋ −

🟨 2 000	🟥 5 000	🟦 750	🟨 1 750
🟦 100	🟨 4 500	🟥 8 000	🟦 200
🟥 3 250	🟦 2 500	🟨 1 200	🟥 3 500
🟨 125	🟥 1 500	🟦 7 000	🟨 4 000

What to do:

- Play in pairs.
- The first player will say: "Add red numbers". Then the second player can take any two red numbers and add them. If the player is correct, he or she will get one point.
- The second player will say: "Subtract yellow numbers". Then the first player makes a subtraction sum with any two yellow numbers.
- Carry on playing. The first person with a score of 10 is the winner.

Sign:

Date:

11

Patterns and tables

How fast can you fill in the missing numbers?

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8		10
2	2	4	6	8		12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15		25	30	35	40	45	50
6	6	12	18	24	30	36	42			60
7	7	14	21	28	35	42	49	56	63	70
8	8	16			40	48	56	64	72	80
9	9	18	27	36	45	54				90
10	10	20	30	40	50	60	70	80	90	100

Term 1

1. **Use the table below to find the answers.**

×	12	14	16	18	20
12	144	168	192	216	240
14	168	196	224	252	280
16	192	224	256	288	320
18	216	252	288	324	360
20	240	280	320	360	400

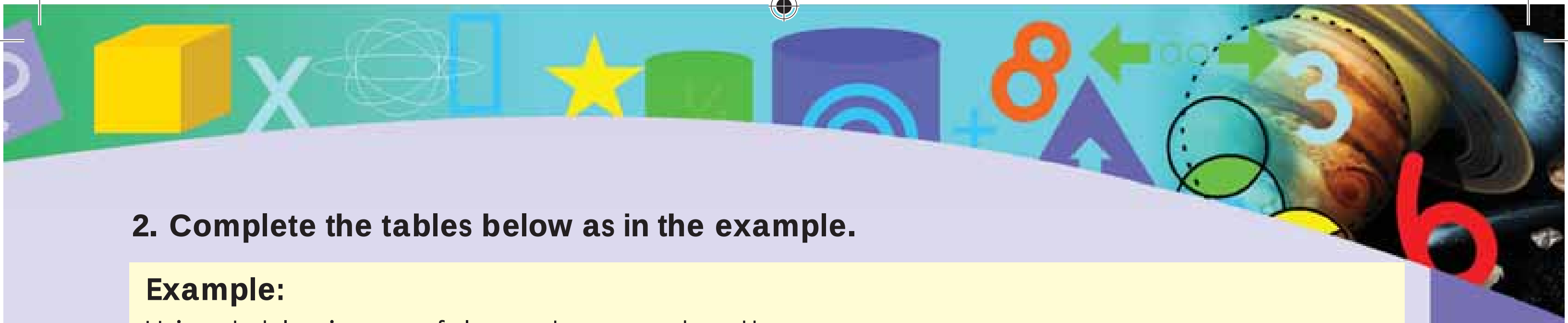
a. 16 x 18 =

b. 18 x 18 =

c. 16 x 12 =

d. 20 x 20 =

e. 14 x 16 =



2. Complete the tables below as in the example.

Example:

Using tables is a useful way to record patterns.

Input

		1	2	3	4	5	6	7	8	9	10
Rule	× 6	6	12	18	24	30	36	42	48	54	60

Output

a.

	1	2	3	4	5	6	7	8	9	10
× 4		8					28			

b.

	1	2	3	4	5	6	7	8	9	10
× 7			21		35					70

c.

	1	2	3	4	5	6	7	8	9	10
× 9	9					54				

d.

	1	2	3	4	5	6	7	8	9	10
× 5				20				40		

e.

	30	31	32	33	34	35	36	37	38	39
× 10										

Input and output values

a. My rule is x **8**. My input values are 1 to 10. What will the 15th output value be?

b. My rule is x **10**. My input values are 11 to 20. What will the 20th output value be?

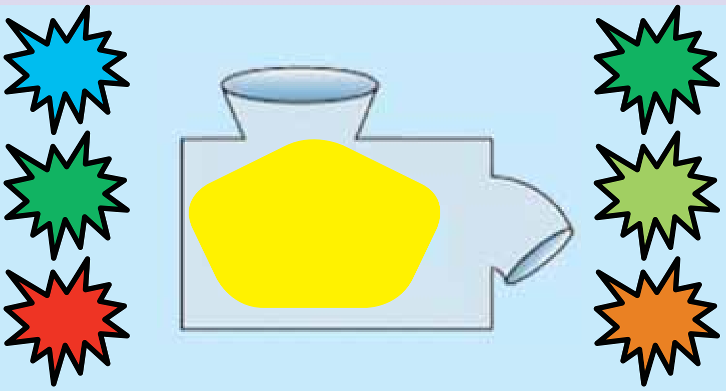
Sign:

Date:

12

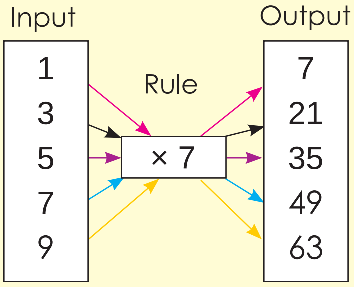
Patterns and flow diagrams

Explain what happened to the paint at the paint shop?

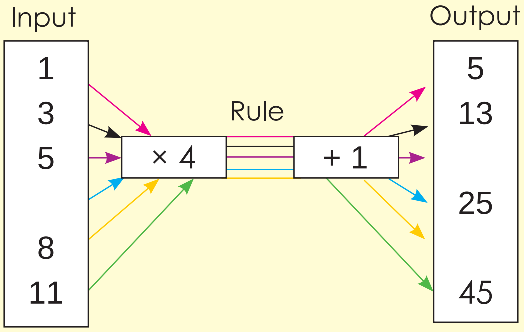


1. **Complete the flow diagrams.**

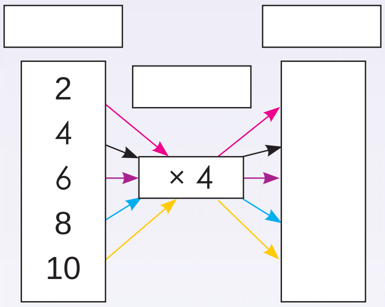
Example 1:



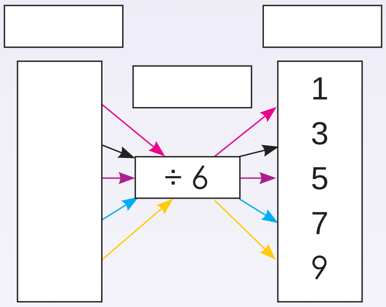
Example 2:



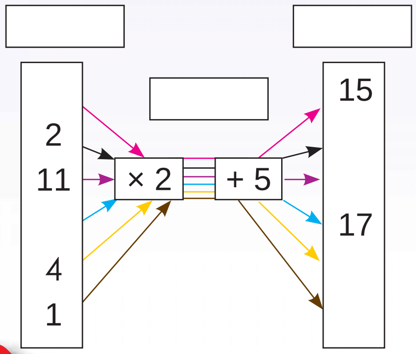
a.



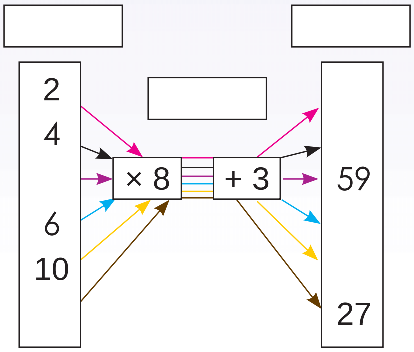
b.



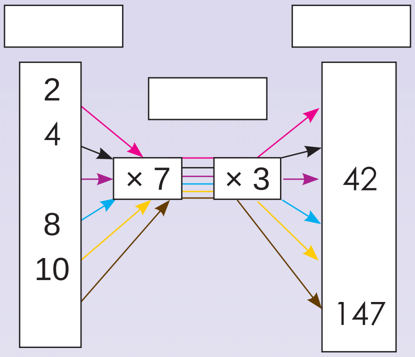
c.



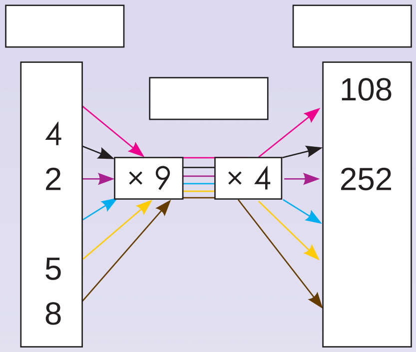
d.



e.

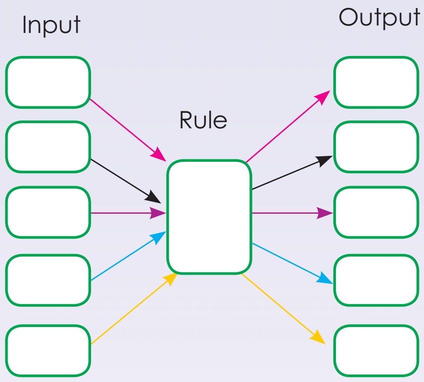


f.

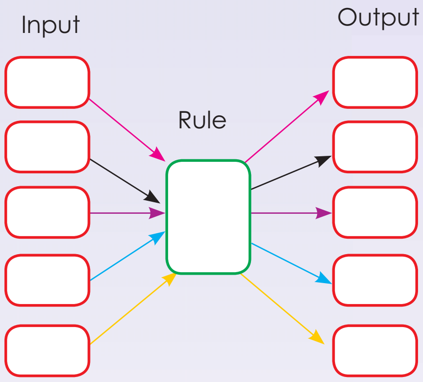


2. Create your own flow diagrams.

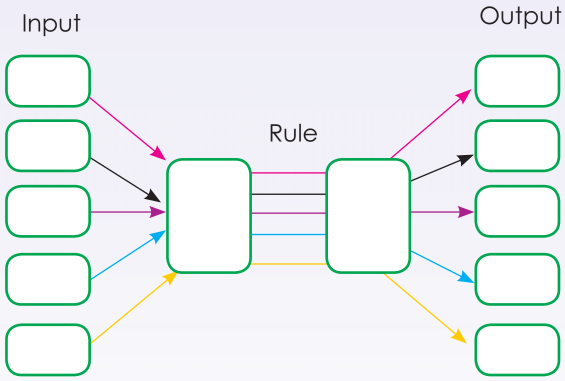
a.



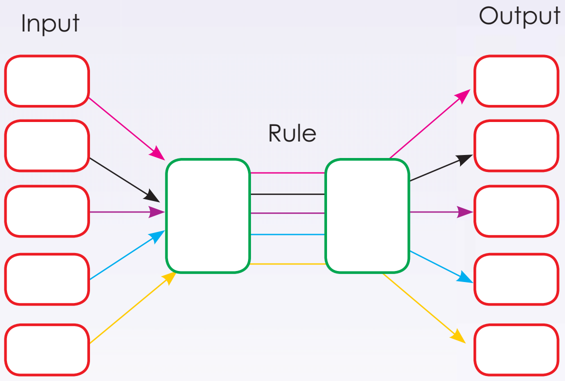
b.



c.



d.



Inputs, rules and outputs

a. My rule is **x 5 + 2**. My input values are 2, 3, 4, 5 and 6. What are my output values?

b. My rule is **x 4 x 5**. My input values are 6, 7, 8, 9, 10 and 11. What are my output values?

Sign:

Date:

13 Number Patterns

Quick recall: How fast can you answer the following?

1 + 4 =	1 x 5 =	1 x 4 =	4 + 5 =	4 x 8 =	3 + 4 =
4 x 7 =	4 + 6 =	1 + 5 =	6 + 5 =	4 + 9 =	4 x 9 =
3 x 5 =	4 x 5 =	3 x 4 =	5 x 5 =	8 + 5 =	4 x 4 =
4 + 8 =	6 x 5 =	9 x 5 =	2 + 4 =	4 x 6 =	4 + 7 =
7 + 5 =	4 + 4 =	3 + 5 =	2 x 5 =	2 x 4 =	2 + 5 =

1. Extend the following patterns.

a. 25, 30, 35, ____, ____, ____

b. 25, 50, 75, ____, ____, ____

c. 110, 120, 130, ____, ____, ____

d. 99, 94, 89, ____, ____, ____

e. 177, 167, 157, ____, ____, ____

f. 31, 56, 81, ____, ____, ____

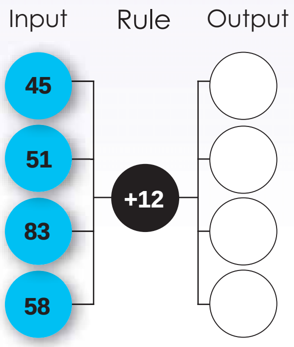
g. 747, 757, 767, ____, ____, ____

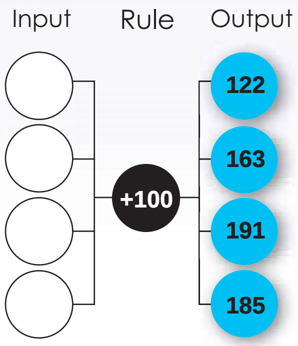
h. 351, 362, 373, ____, ____, ____

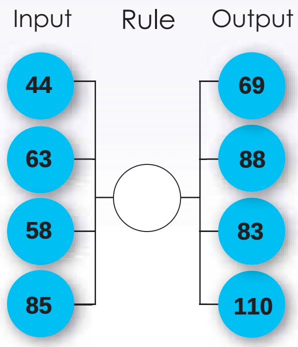
i. 2 100, 2 200, 2 300, ____, ____, ____

j. 10 000, 9 993, 9 986, ____, ____, ____

2. Complete the flow diagram.







3. **Identify the rule in each case.**

a. 21, 26, 31

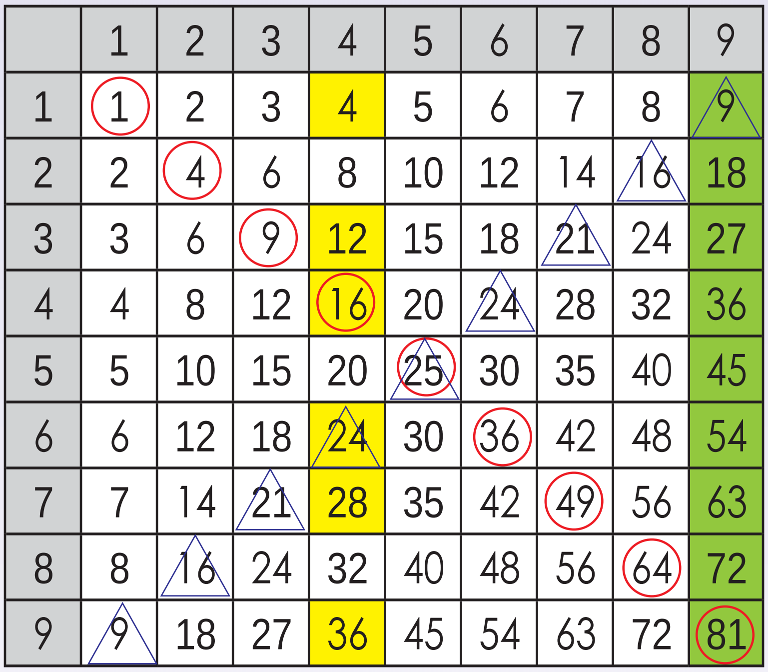
b. 26, 51, 76

c. 125, 150, 175

d. 1 011, 1 021, 1 031

e. 2 061, 2 066, 2 071

4. **Patterns are shown here. Explain each one in words.**



	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

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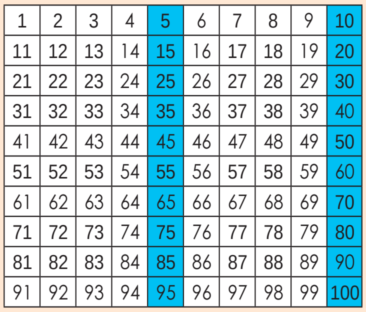
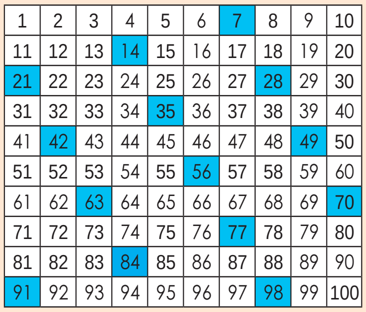
Patterns everywhere

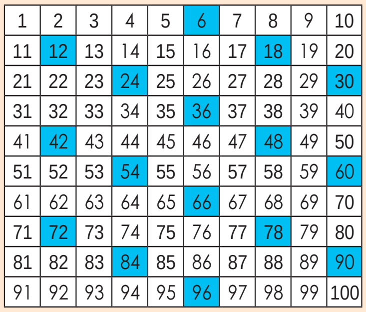
Look at the patterns on the board. Describe each one in your own words.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Sign:

Date:

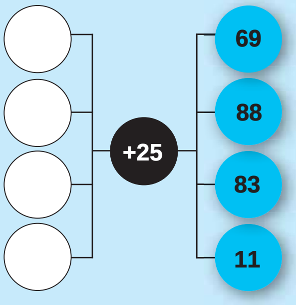
14 More number patterns

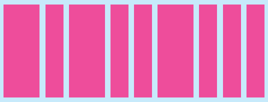
Term 1

What is a pattern? Look at the examples to guide you.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

12, 24, 36, 28, ...





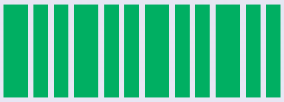
1. Which of these are patterns? Answer with reference to what you said a pattern is.

a. 12, 24, 36, 48, ...

b. 9, 3, 11, 13, ...

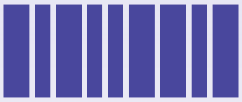
c. 2, 4, 12, 14, 22, 24, ...

d.

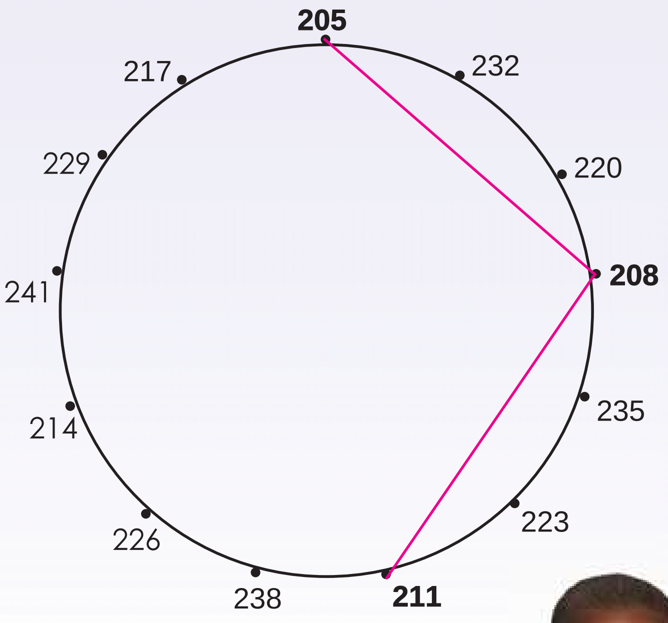


e.

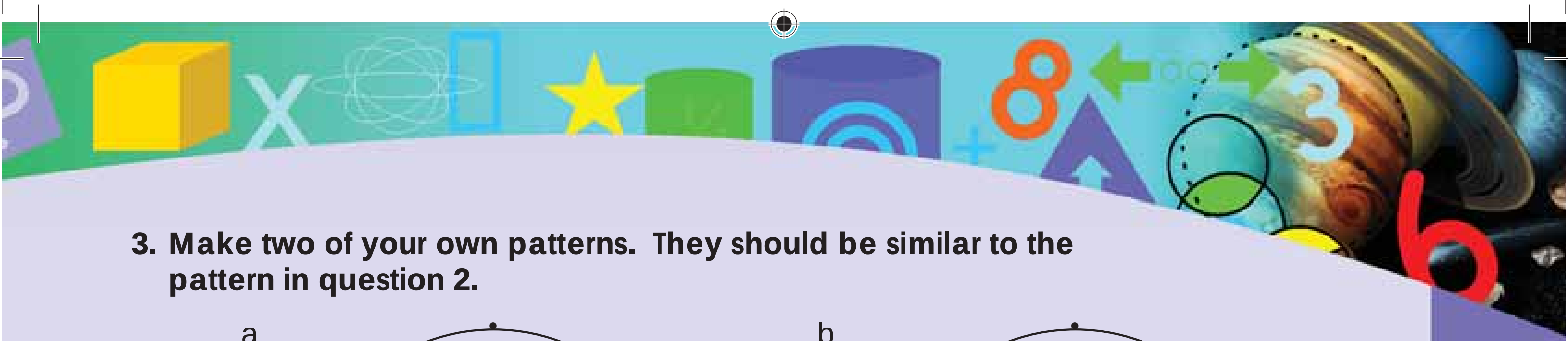
f.



2. Complete the pattern on the circle. We have started it for you.

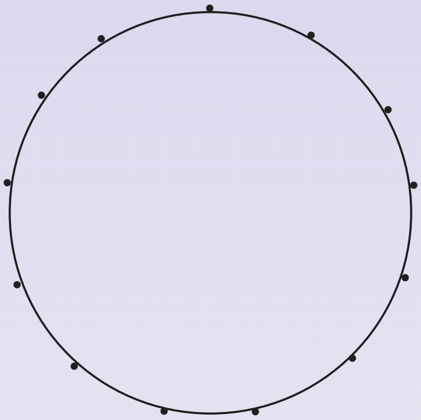


a. Describe the pattern.

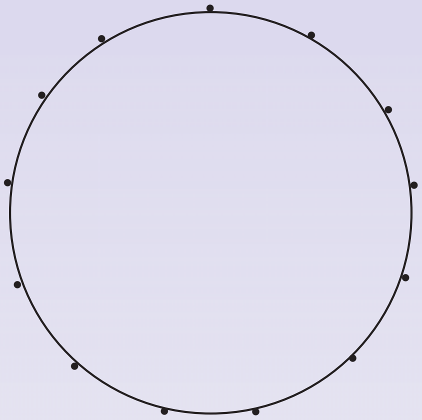


3. **Make two of your own patterns. They should be similar to the pattern in question 2.**

a.



b.



c. Describe the patterns above.

4. **What is the next number?**

a. 2, 3, 5, 8,

b. 100, 81, 64,

c. 1, 4, 9, 16, 25,

d. 3, 9, 81,

Pattern fun ...

What will the next five rows in this pattern be?

1

1+2+1

1+2+3+2+1

1+2+3+4+3+2+1

1+2+3+4+5+4+3+2+1

1+2+3+4+5+6+5+4+3+2+1

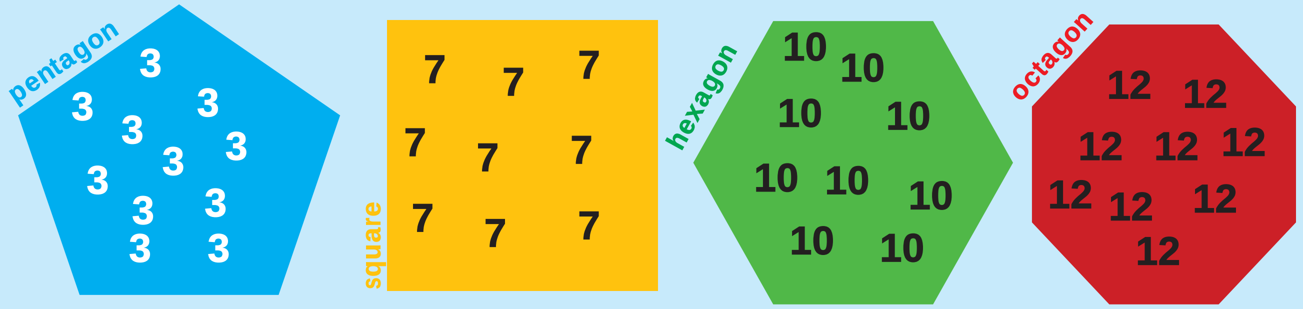
Sign:

Date:

15a Multiplication: 1-digit by 2-digits

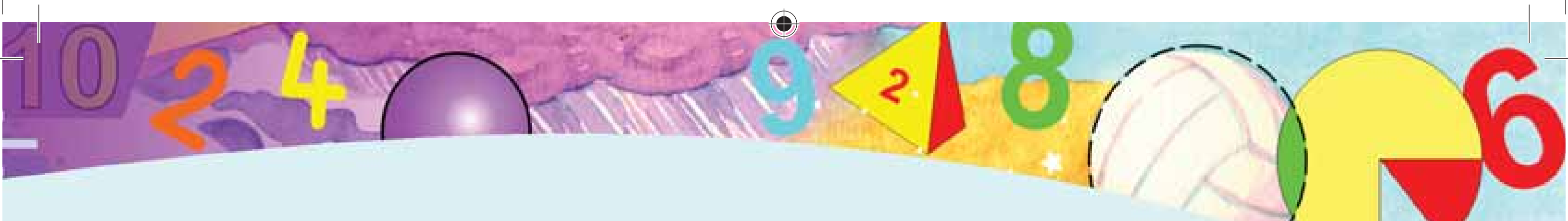
Term 1

Give the total of the numbers in each shape. Use multiplication.



1. How fast can you complete this grid?

X	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
15										
20										

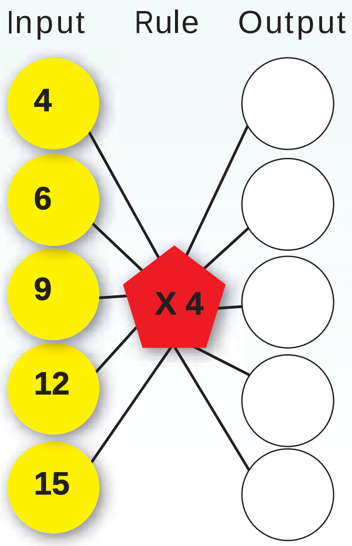


2. **Describe the pattern shaded in yellow on the previous page.**

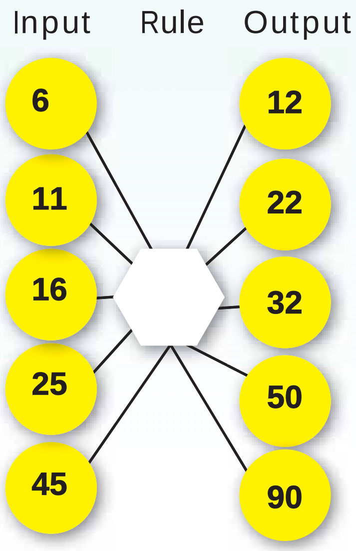
Continue on an extra sheet of paper.

3. **Complete the flow diagrams.**

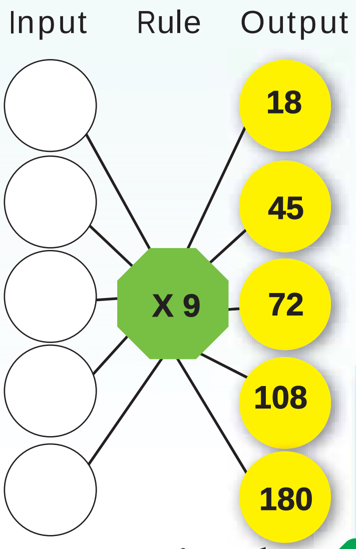
a.



b.



c.



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15b Multiplication: 1-digit by 2-digits continued

d. Draw similar flow diagrams multiplying by 8 and one multiplying by 6.

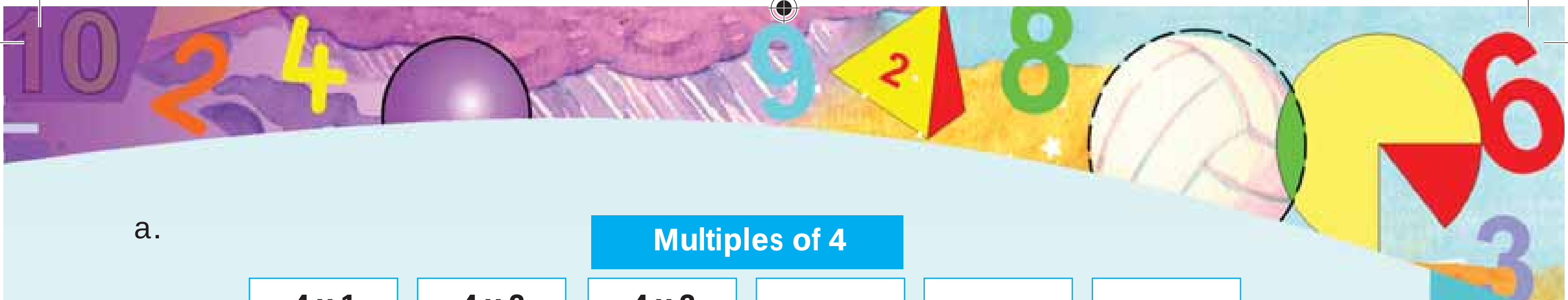
Continue on an extra sheet of paper.

4. The example below will help you to complete the other tables.

Multiples of 3

3 x 1	**3 x 2**	**3 x 3**	**3 x 4**	**3 x 5**	**3 x 6**
↓	↓	↓	↓	↓	↓
3	**6**	**9**	**12**	**15**	**18**

The multiples of 3 are 3, 6, 9, 12, 15, 18, ☐, ☐, ☐, ☐, ☐, ☐



a.

Multiples of 4

4 x 1	4 x 2	4 x 3			
↓	↓	↓	↓	↓	↓

The multiples of 4 are 4, 8, 12, ☐, ☐, ☐, ☐, ☐, ☐

b.

Multiples of 5

↓	↓	↓	↓	↓	↓

The multiples of 5 are ☐, ☐, ☐, ☐, ☐, ☐, ☐, ☐

Competition time

What you need:

- Coloured pencils.

What to do:

- Mark in the multiples as fast as you can:
- Multiples of 5 in **red**.
- Multiples of 6 in **blue**.
- Multiples of 10 in **green**.
- Multiples of 3 in **purple**.
- Multiples of 12 in **yellow**.

5 9 81 30

15 27 75 24

33 72 20 40

10 100 25 3

50 55 85 18

66 48

Check your answers:

- You should have:
- 12 red circles
- 6 blue circles
- 6 green circles
- 13 purple circles
- 4 yellow circles

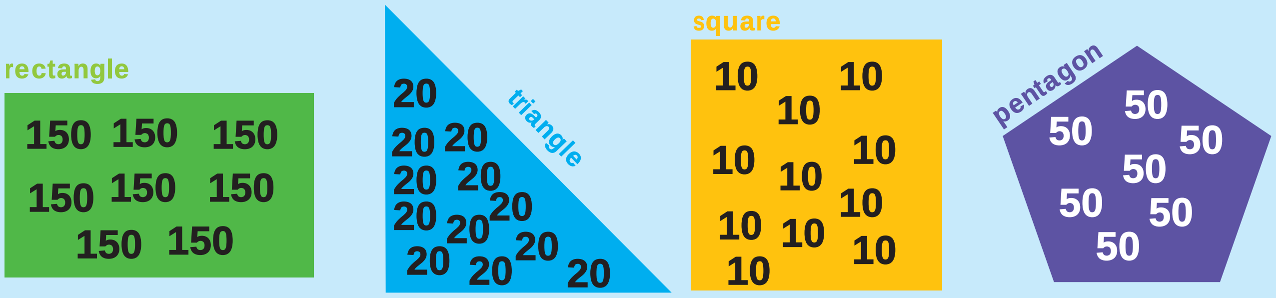
Sign:

Date:

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

16a Multiplication: 2-digits by 1-digit, 2-digits by 2-digits

Give the total of the numbers in each shape. Use multiplication.



1. Find the multiples.

a.

Multiples of 10

10 x 1	10 x 2	10 x 3	10 x 4	10 x 5	10 x 6
↓	↓	↓	↓	↓	↓
10	20	30	40	50	60

The multiples of 10 are ____, ____, ____, ____, ____, ____

b.

Multiples of 100

↓	↓	↓	↓	↓	↓

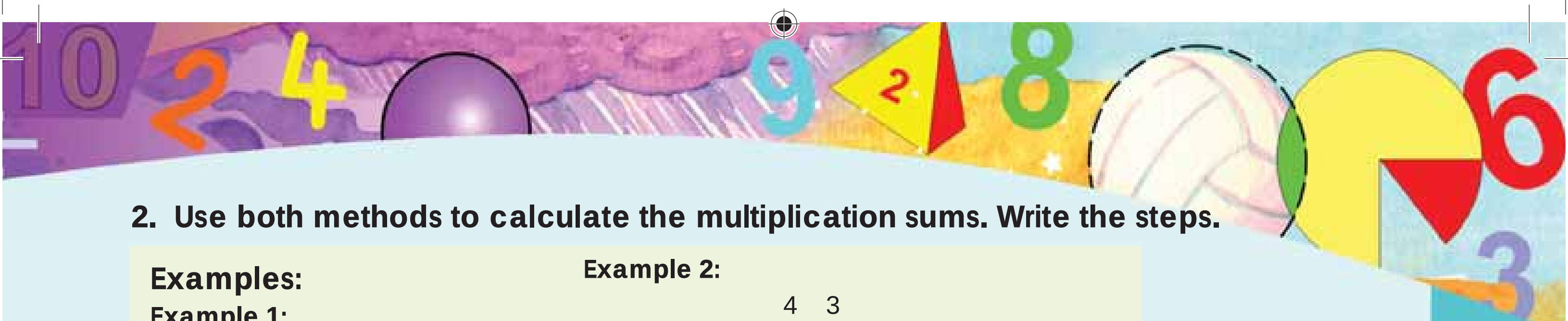
The multiples of 100 are ____, ____, ____, ____, ____, ____

c.

Multiples of 1 000

↓	↓	↓	↓	↓	↓

The multiples of 1000 are ____, ____, ____, ____, ____, ____



2. Use both methods to calculate the multiplication sums. Write the steps.

Examples:

Example 1:

43 x 7
= (40 + 3) x 7
= (40 x 7) + (3 x 7)
= 280 + 21
= 301

Example 2:

$$\begin{array}{rrrrl} & & 4 & 3 & \\ \times & & & 7 & \\ \hline & & 2 & 1 & \quad (3 \times 7) \\ + & 2 & 8 & 0 & \quad (40 \times 7) \\ \hline & 3 & 0 & 1 & \\ \hline \end{array}$$

a. 16 x 3 =

b. 24 x 4 =

Continue on an extra sheet of paper.

c. 30 x 6 =

d. 54 x 7 =

Continue on an extra sheet of paper.

e. 79 x 9 =

Continue on an extra sheet of paper.

Sign:

Date:

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16b

Multiplication: 2-digits by 1 digit, 2-digits by 2-digits continued

3. Use both methods to calculate the multiplication sums. Write the steps down.

Examples:

Example 1:

23 x 14 =
(20 + 3) x (10 + 4)
= (20 x 10) + (3 x 10) + (20 x 4) + (3 x 4)
= 200 + 30 + 80 + 12
= 200 + 100 +10 + 10 + 2
= 300 + 20 + 2
= 322

Example 2:

$$\begin{array}{rrrrl} & & 2 & 3 & \\ \text{x} & & 1 & 4 & \\ \hline & & 1 & 2 & (3 \text{ x } 4) \\ & & 8 & 0 & (20 \text{ x } 4) \\ & & 3 & 0 & (3 \text{ x } 10) \\ + & 2 & 0 & 0 & (20 \text{ x } 10) \\ \hline & 3 & 2 & 2 & \\ \hline \end{array}$$

a.10 x 13 =

b. 15 x 15 =

c. 18 x 21 =

Continue on an extra sheet of paper.

d. 23 x 24 =

e. 36 x 28 =

f. 45 x 29 =

Continue on an extra sheet of paper.

g. 47 x 37 =

h. 54 x 69 =

Continue on an extra sheet of paper.

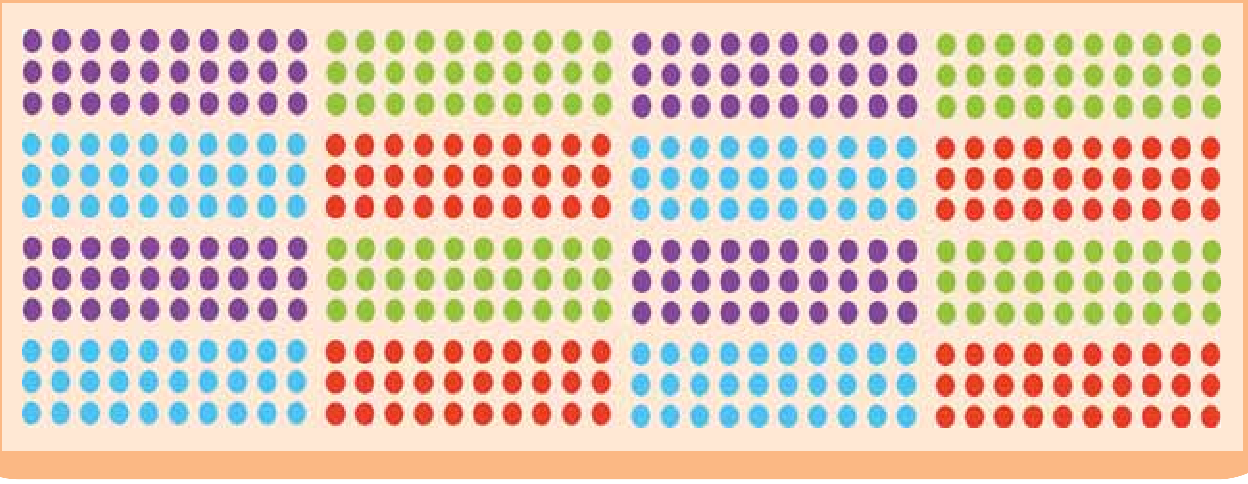
4. Solve the following:

My teacher bought 15 boxes of coloured pencils for R21 each and 15 colouring books for R18 each. How much did she pay in total?

Continue on an extra sheet of paper.

How fast are you?

How many dots do you count?

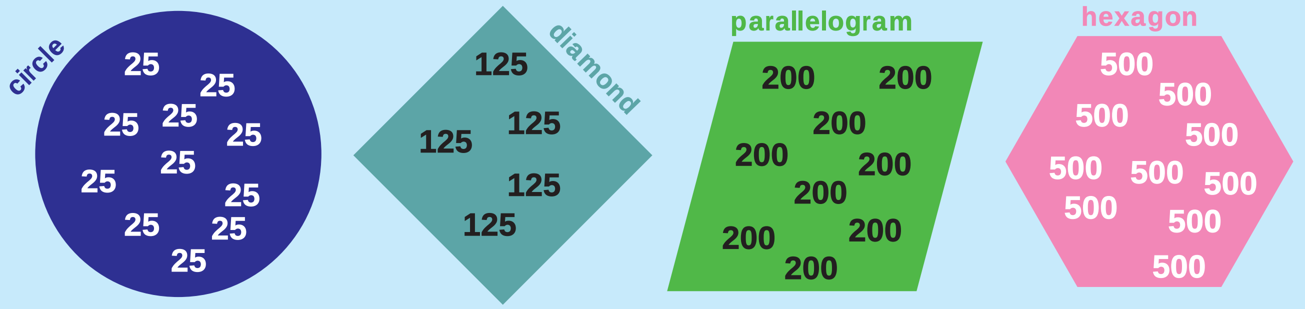


Sign:

Date:

17a Multiplication: 2-digits by 2-digits and 3-digits by 2-digits

Give the total of the numbers in each shape. You should make use of multiplication.



1. Complete the table below.

Number	x 10	x 20	x 30	x 40	X 50	X 60	x 70	X 80	x 90
10									
15									
20									
25									
50									

2. These are multiples of (extend the pattern).

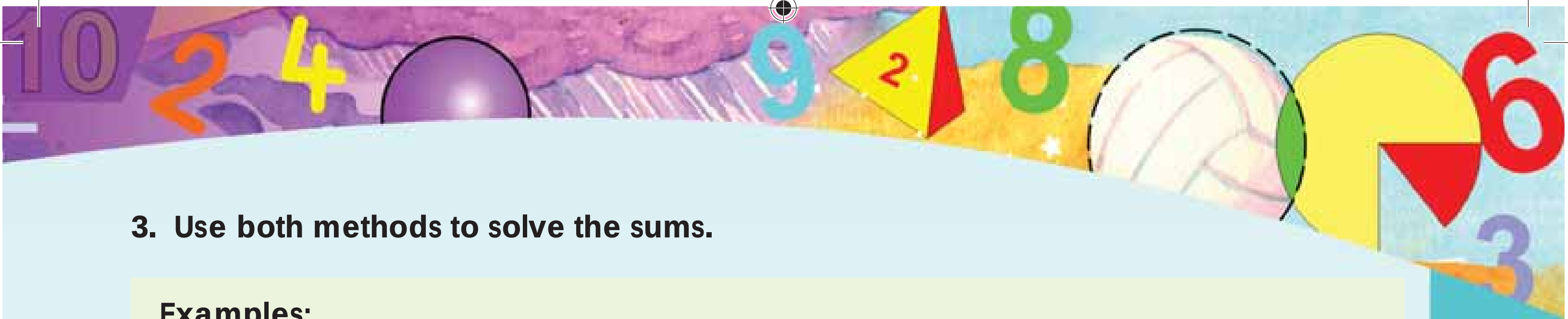
a. **30:** 300, 330, 360, 390,

b. **25:** 125, 150, 175, 200,

c. **50:** 350, 400, 450, 500,

d. **100:** 1 000, 1 100, 1 200, 1 300,

e. **150:** 1 500, 1 650, 1 800, 1 950,



3. Use both methods to solve the sums.

Examples:

Example 1:

19 x 23
= (10 + 9) x (20 + 3)
= (10 x 20) + (9 x 20) + (10 x 3) + (9 x 3)
= 200 + 180 + 30 + 27
= 200 + 100 + 80 + 30 + 20 + 7
= 300 + 130 + 7
= 300 + 100 + 30 + 7
= 400 + 30 + 7
= 437

Example 2:

	1 9	
x	2 3	
	2 7	(9 x 3)
	3 0	(10 x 3)
	1 8 0	(9 x 20)
+	2 0 0	(10 x 20)
	4 3 7	

a. 12 x 19 =

b. 14 x 21 =

Continue on an extra sheet of paper.

c. 17 x 24 =

d. 19 x 27 =

Continue on an extra sheet of paper.

e. 23 x 38 =

Continue on an extra sheet of paper.

Sign:

Date:

continued ☛

17b Multiplication: 2-digits by 2-digits and 3-digits by 2-digits continued

4. Use the method below to solve the multiplication sums.

Examples:

Example 1:

45 x 62
= (40 + 5) x (60 + 2)
= (40 x 60) + (5 x 60) + (40 x 2) + (5 x 2)
= 2 400 + 300 + 80 + 10
= 2 000 + 400 + 300 + 80 + 10
= 2 000 + 700 + 90
= 2 790

a. 28 x 43 =

b. 39 x 48 =

Continue on an extra sheet of paper.

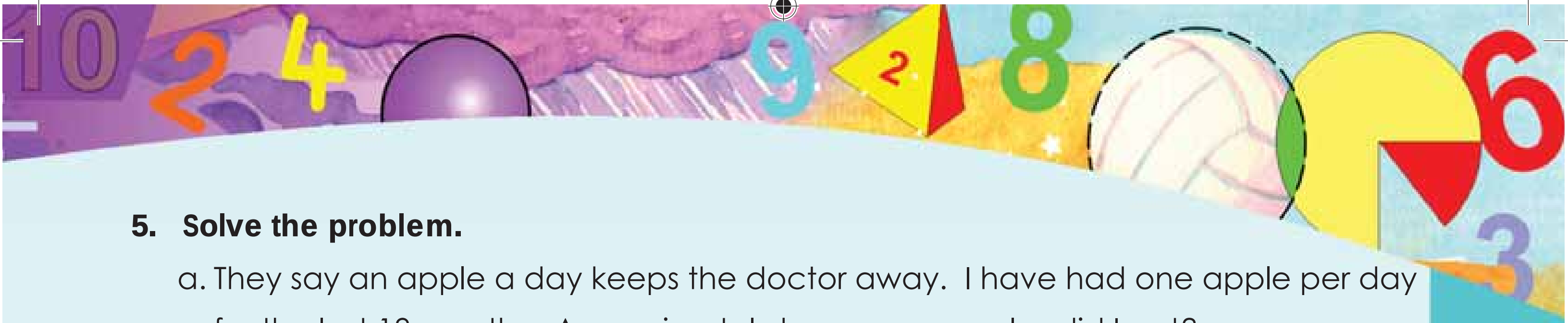
c. 46 x 57 =

d. 67 x 72 =

Continue on an extra sheet of paper.

e. 84 x 93 =

Continue on an extra sheet of paper.

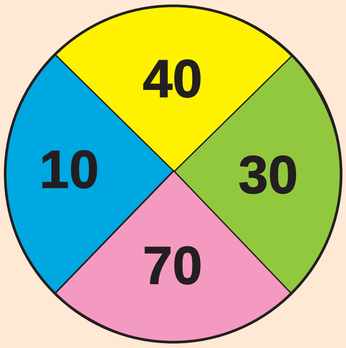


5. Solve the problem.

a. They say an apple a day keeps the doctor away. I have had one apple per day for the last 18 months. Approximately how many apples did I eat?

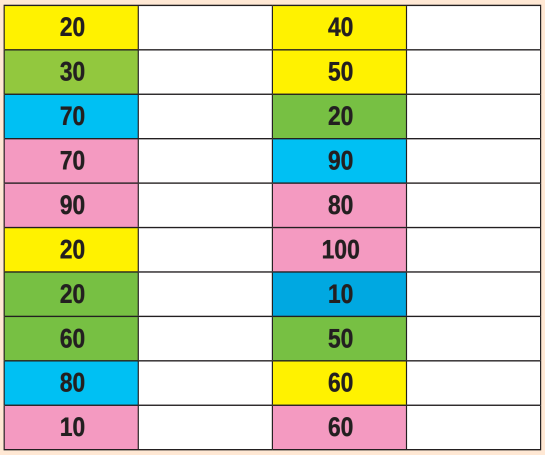
Continue on an extra sheet of paper.

How fast are you?



What to do:

- The aim is to see how fast you can fill in the answers in the white rectangles.
- Multiply each number on the circle by the same colour rectangles to get your answer.



20		40	
30		50	
70		20	
70		90	
90		80	
20		100	
20		10	
60		50	
80		60	
10		60	

Sign:

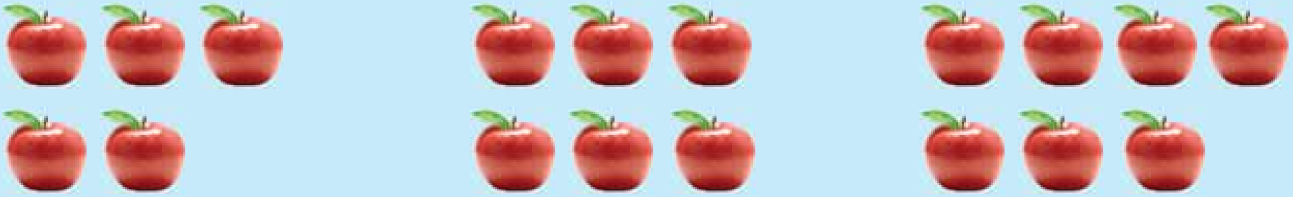
Date:

18a Grouping and sharing problems

Thinking in groups:

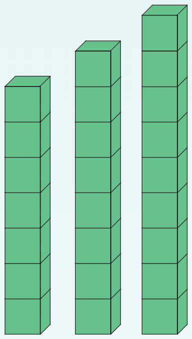
We have 18 apples.

Can you move 1 apple to make 3 equal groups?



1. How many objects do you need to move to make 3 equal groups? Complete the following using the example given.

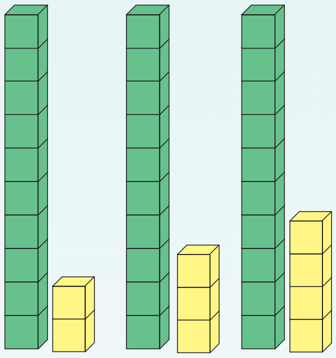
a. 7 + 8 + 9 = 24



i. Addition sum:
8 + 8 + 8 = 24

ii. Multiplication sum:
8 x 3 = 24

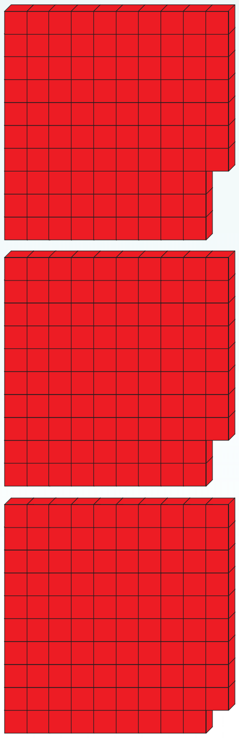
b. 12 + 13 + 14 =



i. Addition sum:

ii. Multiplication sum:

c. 97 + 98 + 99 =



i. Addition sum:

ii. Multiplication sum:

d. 2 000 + 3 000 + 4 000 =

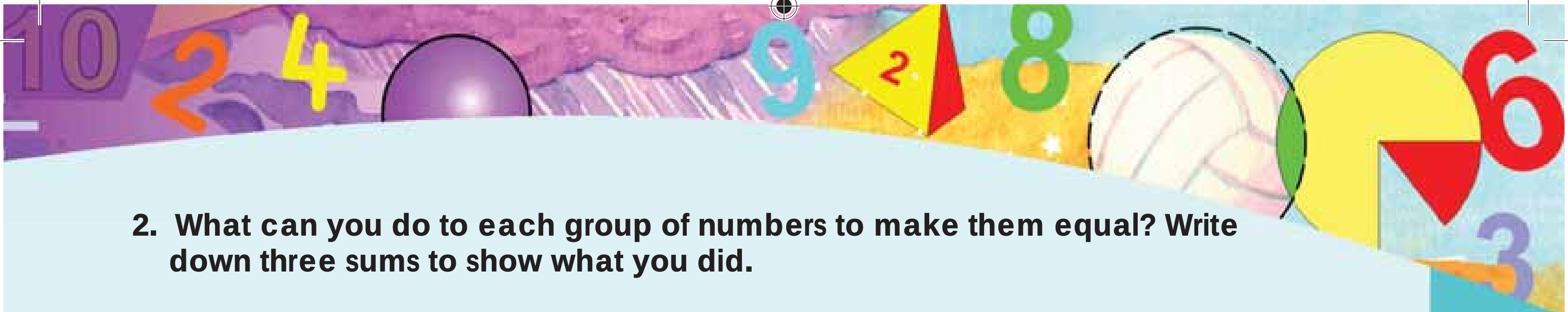
2 000

3 000

4 000

i. Addition sum:

ii. Multiplication sum:



2. What can you do to each group of numbers to make them equal? Write down three sums to show what you did.

i. 3, 4, 5

a. 3 + 1 = 4

b. 4 + 0 = 4

c. 5 – 1 = 4

ii. 20, 30, 40

a.

b.

c.

iii. 600, 700, 800

a.

b.

c.

iv. 4, 6, 8

a.

b.

c.

v. 40, 50, 60

a.

b.

c.

vi. 100, 200, 300

a.

b.

c.

vii. 80, 90, 100

a.

b.

c.

viii. 700, 800, 900

a.

b.

c.

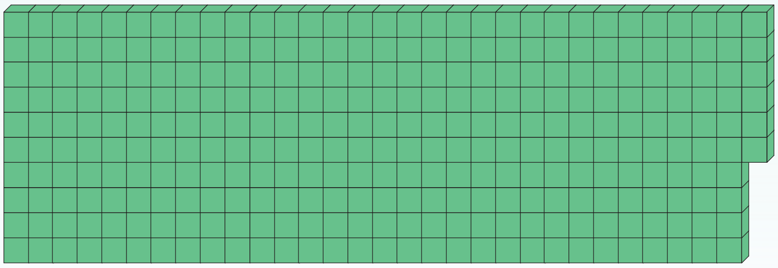
ix. 4 000, 5 000, 6 000

a.

b.

c.

3. Break this block into 3 equal parts.



i. Now write an addition sum:

ii. Now write a multiplication sum:

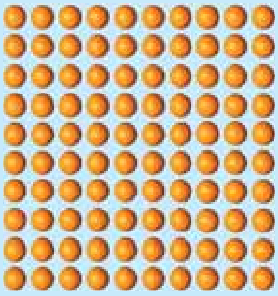
Sign:

Date:

continued ☛

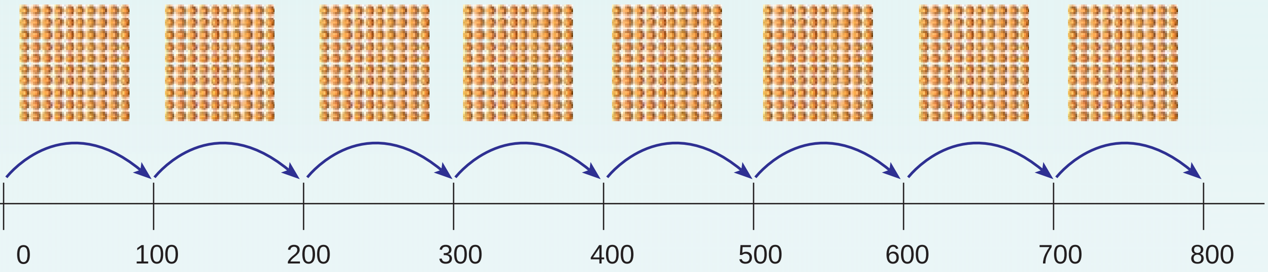
18b Grouping and sharing problems continued

What does it mean to share? How fast can you share the oranges between the children?



1. Use the number line to answer the questions.

a.

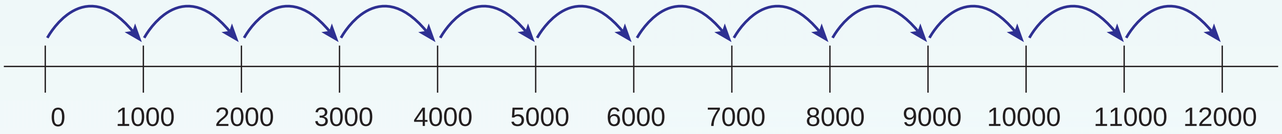


i. How many groups of a hundred do you count? ____________

ii. You can write it as: ____ x ____

iii. If I share 800 by 8, what will I get? ____

b.

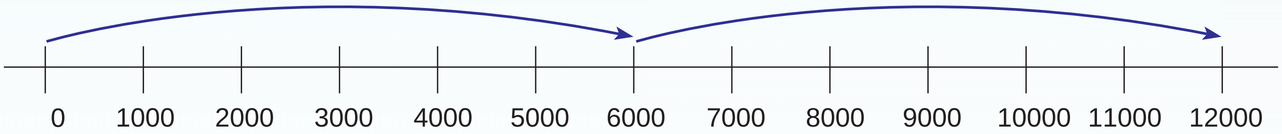


i. How many groups of a thousand do you count? ____________

ii. You can write it as: ____ x ____

iii. If I share 12 000 by 1 000, what will I get? ____

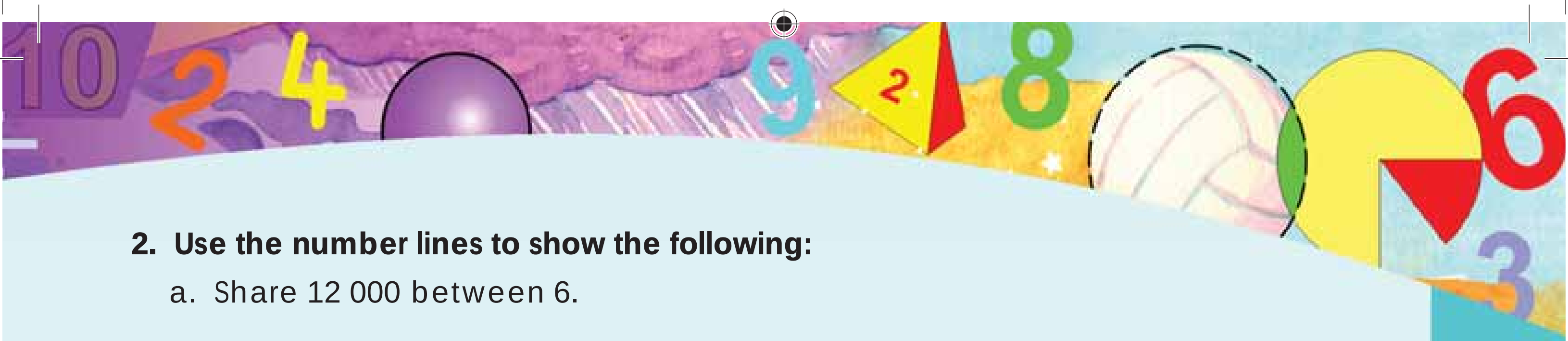
c.



i. How many groups of six thousand do you count? ____________

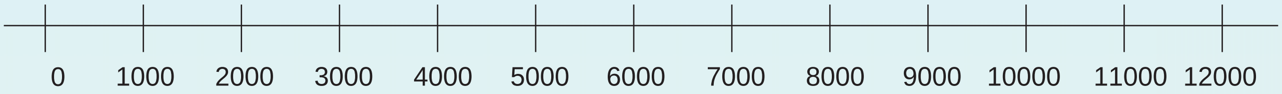
ii. You can write it as: ____ x ____

iii. If I share 8000 by 8, what will I get? ____

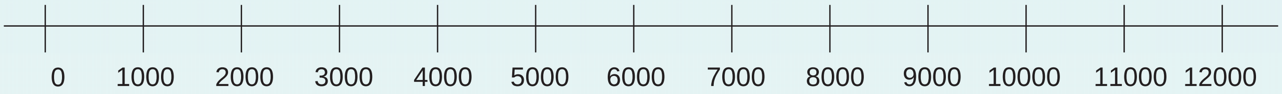


2. Use the number lines to show the following:

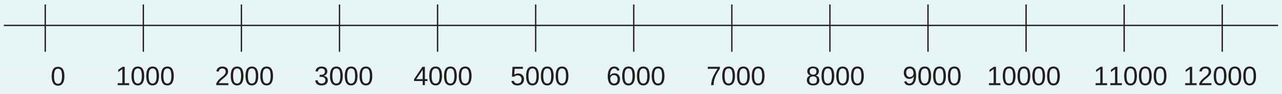
a. Share 12 000 between 6.



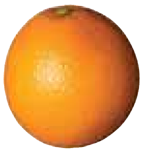
b. Share 12 000 between 4.



c. Share 12 000 between 3.



3. Which of these fruits could I share equally?

Fruit	Number	Shared between	Each get	Remainder
	2 000 apples	10	200	0
	2 800 oranges	100		
	3 700 bananas	100		
	5 250 naartjies	10		
	9 487 pears	100		

Sign:

Date:

continued ☛

Division: 3-digit by 1-digit

Look at the picture.
You have offered to help the teacher to re-arrange the books on the shelves. She only wants 25 books per shelf. She has 200 books. Will she have enough shelf space?

Explain how you got your answer.

Division is the opposite or reverse operation to multiplication. We say that division is the **inverse** of multiplication.

The inverse of 320 ÷ 8 = 40 is 8 x 40 = 320, and 8 x 40 = 320 is the inverse of 320 ÷ 8 = 40.

1. Complete the following:

Example:

320 ÷ 8 is the inverse of 8 x 40 = 320

490 ÷ 7 is the inverse of 7 x 70 = 490

360 ÷ 6 is the inverse of 6 x 60 = 360

a. 320 ÷ 8 is the same as

b. 400 ÷ 8 is the same as

c. 240 ÷ 4 is the same as

2. Complete the following:

Example:

325 ÷ 8 is the inverse of 8 x 40 + 5 = 325

496 ÷ 7 is the same as 7 x 70 + 6 = 496

368 ÷ 6 is the inverse of 6 x 60 + 8 = 368

a. 352 ÷ 8 is the same as

b. 448 ÷ 8 is the same as

c. 264 ÷ 4 is the same as

3. Complete the following:

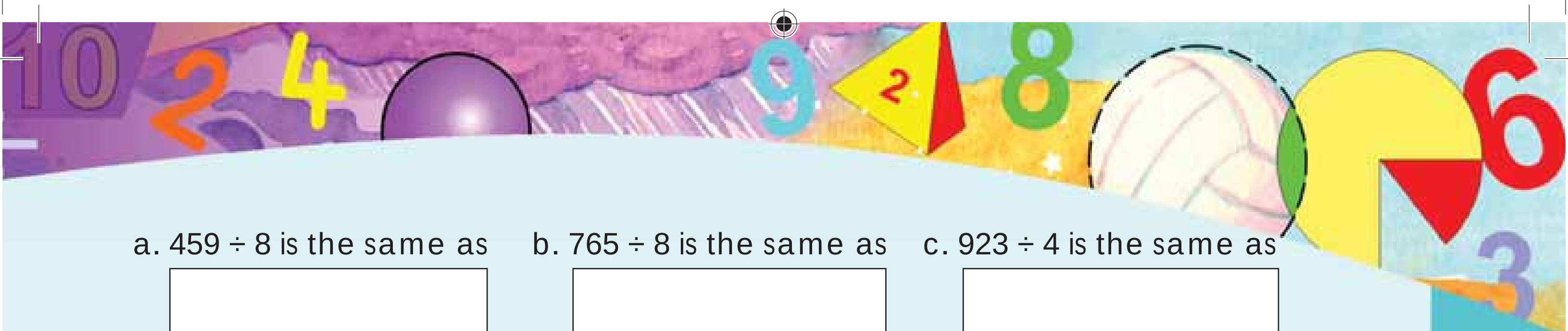
Example:

375 ÷ 8

8 x 40 = 320. There is 55 left.

8 x 6 = 48. There is 7 left.

375 ÷ 8 = 46 remainder 8



a. 459 ÷ 8 is the same as

b. 765 ÷ 8 is the same as

c. 923 ÷ 4 is the same as

4. Calculate the following and then test your answer.

Example:

364 ÷ 5
= (300 + 50 + 14) ÷ 5
= (300 ÷ 5) + (50 ÷ 5) + (14 ÷ 5)
= 60 + 10 + 2 remainder 4
= 72 remainder 4

Test your answer:

72 x 5
= 350 + 10
= 360 plus the remainder 4
= 364

a. 463 ÷ 5 =

b. 417 ÷ 7 =

c. 253 ÷ 6 =

d. 496 ÷ 8 =

e. 391 ÷ 5 =

f. 157 ÷ 9 =

Cutting the rope and cash

a. Ben has a 435 m long rope. He needs 7 equal pieces. How long will each piece of rope be?
b. Katlego has R180,00. He has to share it equally with his two brothers. How much will each boy get?

Sign:

Date:

20a Calculate time

a.m. – any time in the morning between midnight and midday.

Example:

01:00	02:00	03:00	04:00	05:00	06:00
07:00	08:00	09:00	10:00	11:00	12:00

p.m. – any time in the afternoon or evening that is between midday and midnight.

Example:

13:00	14:00	15:00	16:00	17:00	18:00
19:00	20:00	21:00	22:00	23:00	24:00

1. Write down the times shown on the clock:

a. 2 a.m.
or 2 p.m.

b. a.m.
or p.m.

c. a.m.
or p.m.

d. a.m.
or p.m.

e. a.m.
or p.m.

f. 2 a.m.

g.

h.

i. 5 p.m.

j.

2. Write down the times shown on the clock:

a. a.m.
or p.m.

b. a.m.
or p.m.

c. a.m.
or p.m.

d. a.m.
or p.m.

e. a.m.
or p.m.

f.

g.

h.

i.

j.

3. Write down the times shown on the clock:





a. ______ a.m. or ______ p.m.
b. ______ a.m. or ______ p.m.
c. ______ a.m. or ______ p.m.
d. ______ a.m. or ______ p.m.
e. ______ a.m. or ______ p.m.

f. ______

g. ______

h. ______

i. ______

j. ______

4. Draw the clock hands to show the following times on the clocks:


a. 1 p.m.


b. 3 a.m.


c. 8 a.m.


d. 11 p.m.


e. 6 p.m.


f. 03:45


g. 09:26


h. 16:38


i. 12:51


j. 00:23


k. 01:25:03


l. 08:41:44


m. 16:50:57


n. 20:19:32


o. 23:37:59

Find in magazines

Find five pictures of watches in magazines, newspapers and advertisements.
Say why you would or would not buy it.

Sign:

Date:

continued ☛

20b

Calculate time continued

Term 1

Every Saturday I do a mountain bike race. These are my finishing times for one month. Which month was it?

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

1 hour 20 min

1 hour 15 min

1 hour 9 min

59 minutes

By how many minutes did I improve from my first to my fourth race?

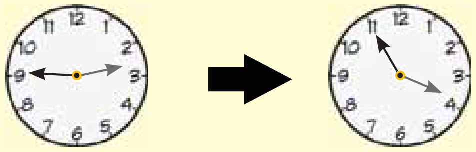
5. Calculate the following:

Example: What is 2:45 + 1:10?

Add the hours: 2 + 1 = **3**

Add the minutes: 45 + 10 = **55**

The answer is **3:55**



a. 2:10 + 1:30 =

b. 3:30 + 4:10 =

c. 6:40 + 3:10 =

6. Calculate the following:

Example: What is 2:45 + 1:20?

Add the hours: 2 + 1 = **3**

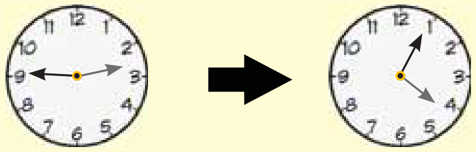
Add the minutes: 45 + 20 = **65**

The minutes are 60 or more,

so subtract 60 from minutes (65 – 60 = **5** minutes)

and add 1 to hours (3 + **1 = 4** hours)

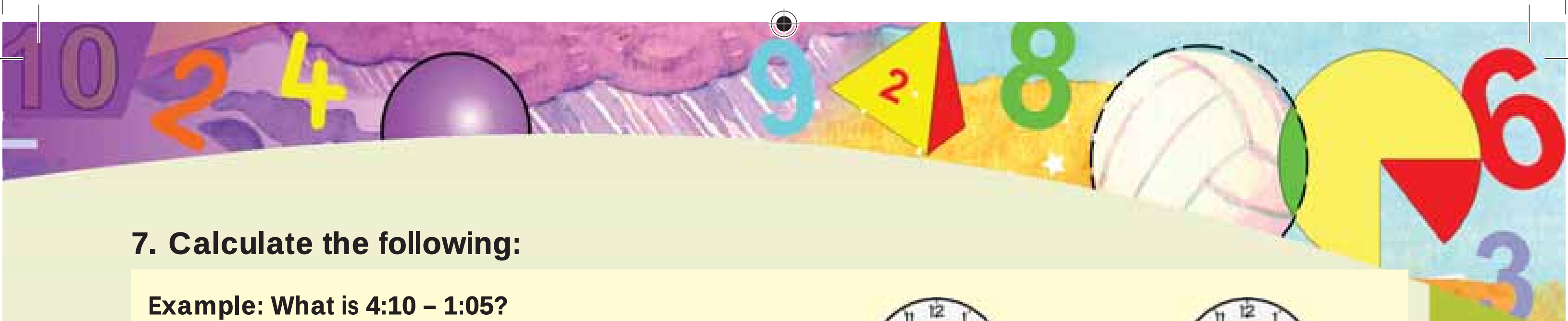
The answer is **4:05**



a. 1:10 + 2:55 =

b. 4:40 + 3:30 =

c. . 5:30 + 5:40 =



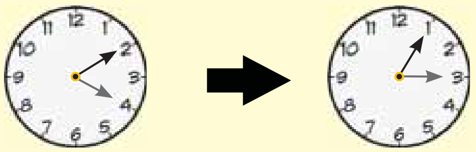
7. Calculate the following:

Example: What is 4:10 – 1:05?

Subtract the hours: 4 – 1 = **3**

Subtract the minutes: 10 – 5 = **5**

The minutes are OK, so the answer is **3:05**



a. 1:40 – 1:20 =

b. 7:30 – 4:20 =

c. 2:20 – 1:15 =

8. Calculate the following:

Example: What is 4:10 – 1:35?

Subtract the hours: 4 – 1 = **3**

Subtract the minutes:

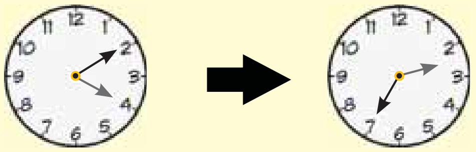
10 – 35 = **– 25**

The minutes are less than 0,

so add 60 to minutes (60 – 25 = **35** minutes)

and subtract 1 from the hours (3 – 1 = **2** hours)

The answer is **2:35**

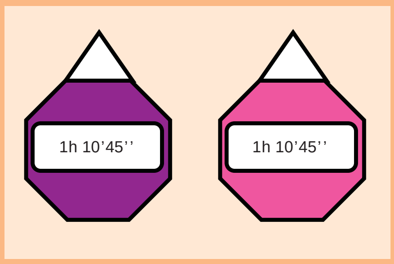


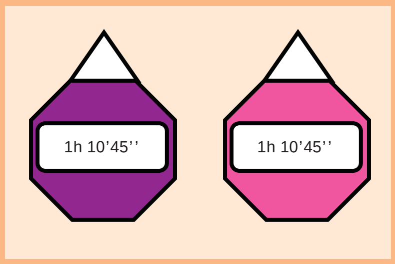
a. 13:10 – 10:15 =

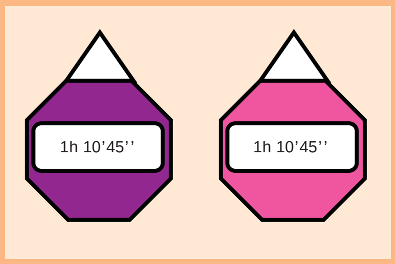
b. 4:20 – 3:30 =

c. 8:30 – 6:40 =

Time trials





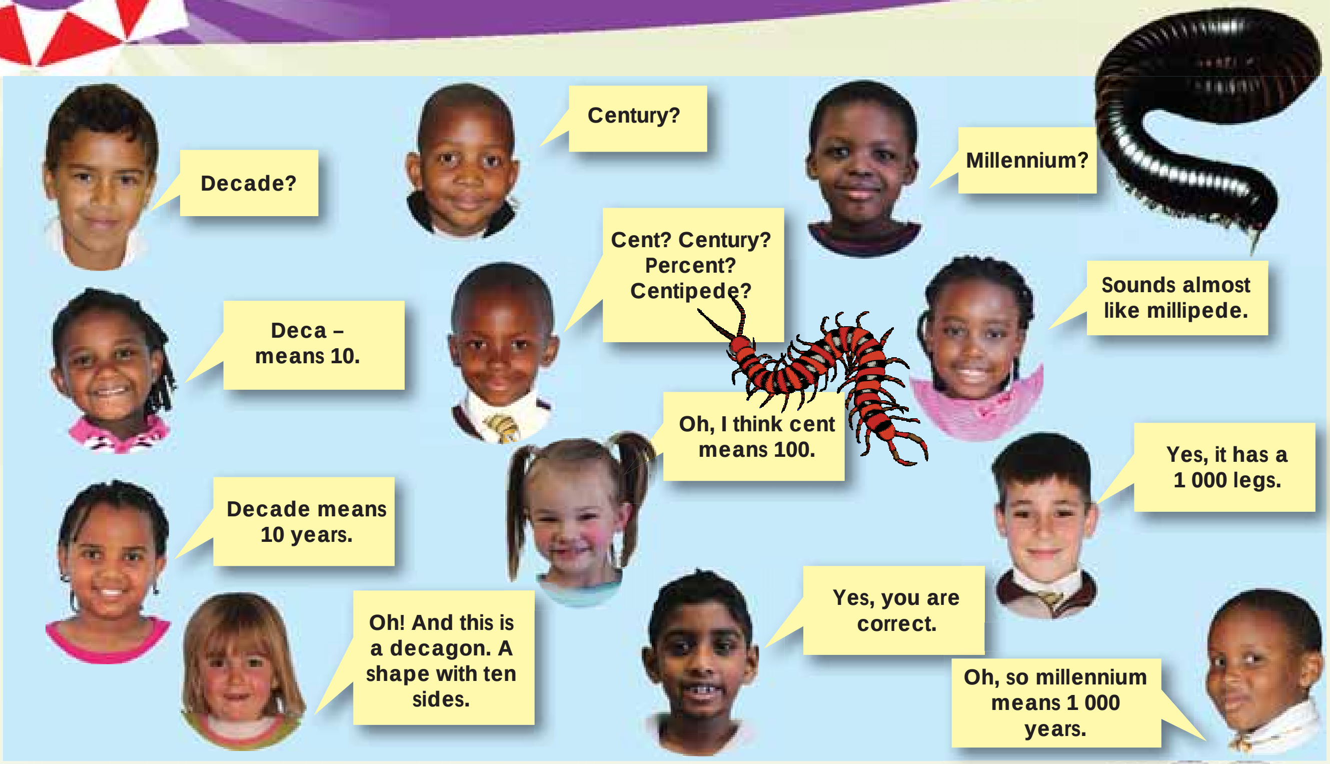


My friend and I did various physical activities and timed ourselves. Here are the results on our two stopwatches. What is the difference between our times?

Sign:

Date:

21 More time

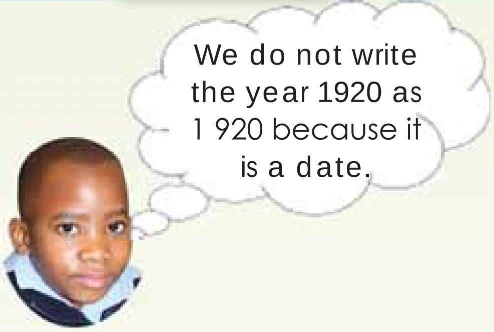


1. How many years are there in a:

a. Decade? ____

b. Century? ____

c. Millennium? ____



2. Answer the following questions:

a. Let us count in decades.

1 910, 1 920, 1 930, ____, ____, ____, ____, ____, ____, ____

b. Let us count in centuries.

1 100, 1 200, 1 300, ____, ____, ____, ____, ____, ____, ____

c. What millennium will come next?

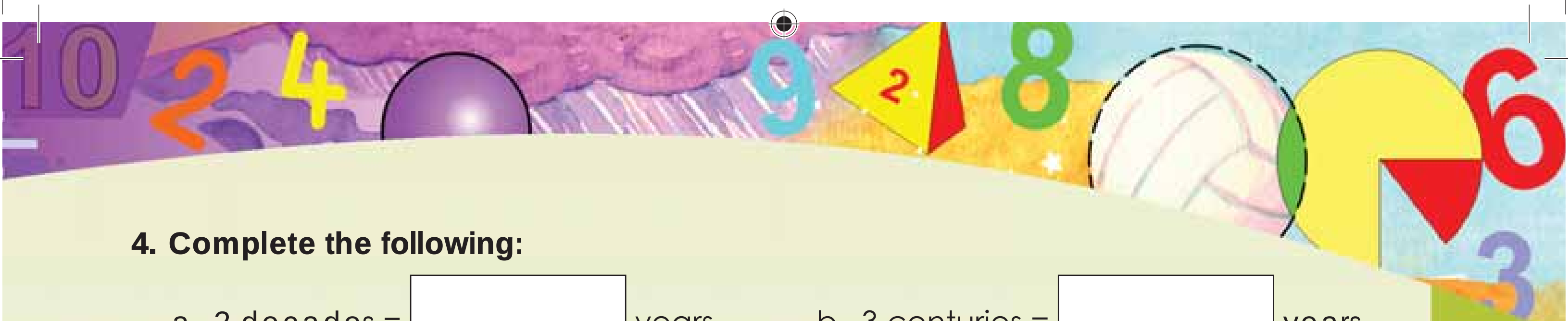
1 000, 2 000, ____

3. How many:

a. Decades are there in a century? ____

b. Centuries are there in a millennium? ____

c. Decades are there in a millennium? ____



4. Complete the following:

a. 2 decades = ______ years

b. 3 centuries = ______ years

c. 3 millennia = ______ years

d. 9 centuries = ______ years

e. 2 millennia = ______ years

f. 4 decades= ______ years

g. 6 centuries = ______ years

h. 5 centuries = ______ years

i. 7 decades = ______ years

j. 4 millennia = ______ years

k. 9 millennia = ______ years

l. 1½ centuries = ______ years

m. 2½ millennia = ______ years

n. 8½ decades = ______ years

5. Complete the following. The example will guide you.

a. 1995 = 1 millennium, 9 centuries, 9 decades, 5 years

b. 1852 = ______ , ______ , ______ , ______

c. 1603 = ______ , ______ , ______ , ______

d. 1999 = ______ , ______ , ______ , ______

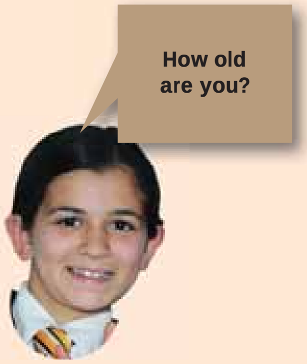
e. 2010 = ______ , ______ , ______ , ______

6. What does “twenty ten” mean? ______

7. What does “He was born in the 20th century” mean? ______

8. What did people all over the world celebrate in 2000? ______

How old am I?

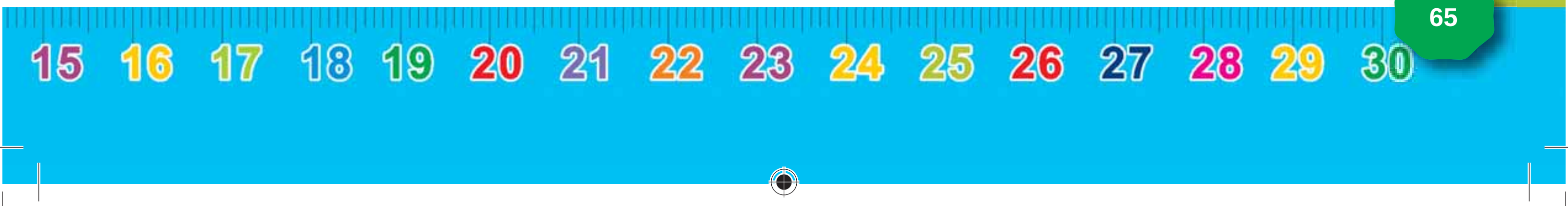


Write your age in:

millennia
centuries
decades
years

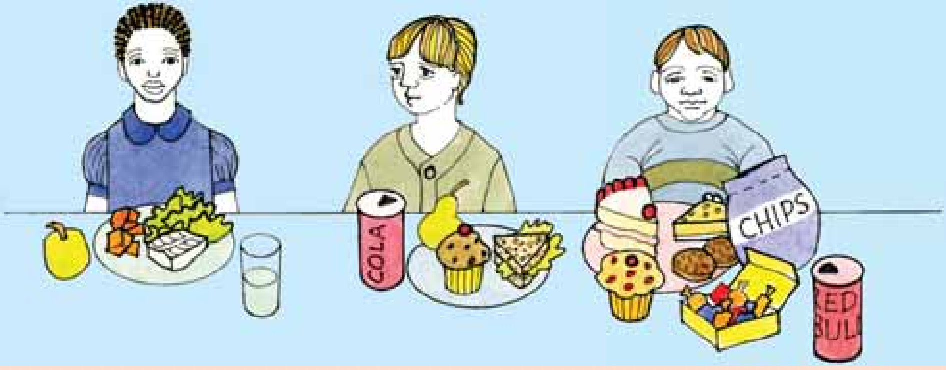
Sign:

Date:



22a Data handling

Discuss: Do you think the children in this class eat healthy food?

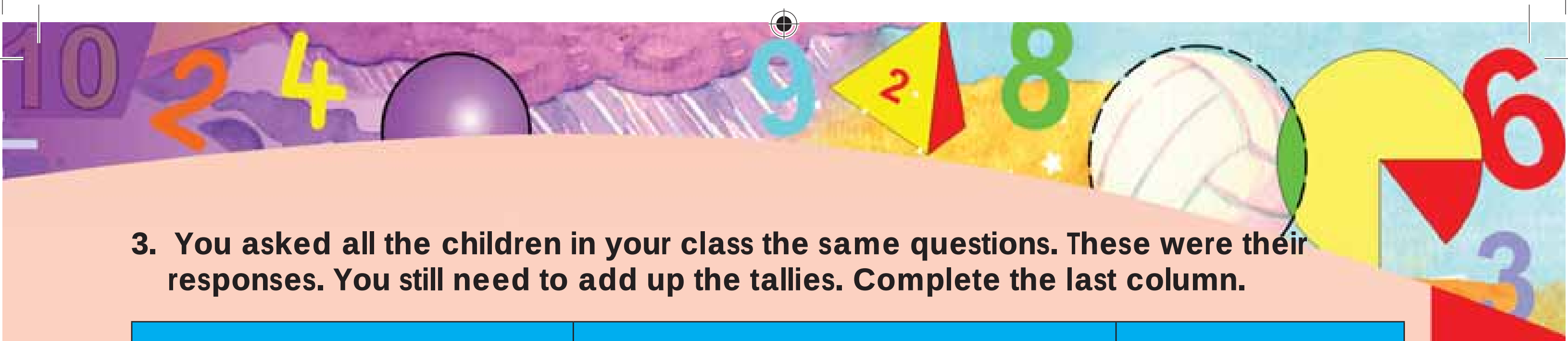


1. **Complete the table below on the food you prefer.**

Breakfast	Tick which of these you eat most often for these meals:
Cooked porridge	
Cereal with added sugar	
Cereal without added sugar	
Bread	
Fruit	
Yoghurt	
I don't eat breakfast	
Bacon and eggs	
Lunch	
Junk food	
Healthy sandwich	
Cooked meal	
Supper	
Junk food	
Healthy sandwich	
Cooked meal	

2. **Do you think you eat healthy food?**

Tick the answers above first.



3. **You asked all the children in your class the same questions. These were their responses. You still need to add up the tallies. Complete the last column.**

Breakfast	Tallies	Frequency
Cooked porridge	𝍸 𝍸 /	11
Cereal with added sugar	𝍸	
Cereal without added sugar	///	
Bread	///	
Fruit	𝍸	
Yoghurt	//	
I don't eat breakfast	𝍸 𝍸 ///	
Bacon and eggs	/	
Lunch		
Junk food	////	
Healthy sandwich	𝍸 𝍸 𝍸 𝍸 𝍸 𝍸	
Cooked meal	𝍸 ///	
Supper		
Junk food	𝍸 𝍸	
Healthy sandwich	𝍸 /	
Cooked meal	𝍸 𝍸 𝍸 𝍸 𝍸 /	

a. What is the most common breakfast? ____________________

b. What is the least common breakfast? ____________________

c. What is the most common lunch? ____________________.

d. Do most children eat a healthy or unhealthy lunch? ____________________

Why? ____________________

e. How many children eat a cooked meal for supper? ____________________

f. How many children don't eat breakfast? ____________________

Do you think it is healthy? __________ Why? __________

g. Is bacon and eggs a favourite meal? __________ Why or why not? __________

____

Tally competition …

In pairs see who can count the tallies the fastest.

𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸

𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 𝍸 ///

Sign:

Date:

continued ☛

Data handling continued

4. Compile a tally and frequency table with five categories using the information below. We started the table for you by filling in the categories.

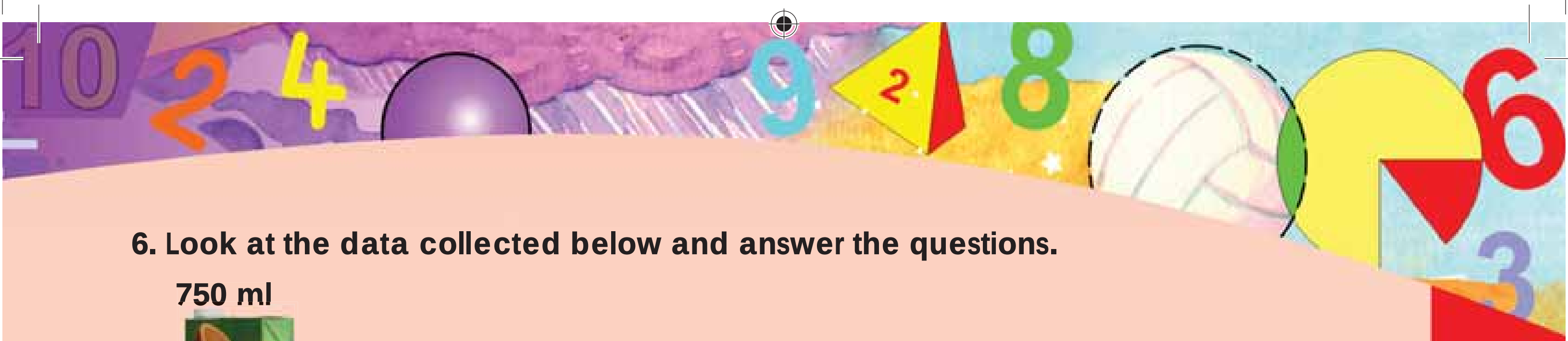
Name	Exam score	Name	Exam score
Denise	55	Elias	65
John	45	Simon	30
Jason	85	Edward	25
Mathapelo	60	Susan	47
Beatrix	79	Philip	64
Opelo	59	Ben	77
Lisa	53	Lauren	49
Gugu	90	Tefo	60
Sipho	63	Alice	46
Lerato	51	Musa	73

Exam Score categories	Tally	Frequency
0 –20		
21– 40		
41– 60		
61– 80		
81–100		

5. You recorded the minimum temperatures per day for the past month. The results are as follows:

12	13	9	10	11	12	11	7	11	10
10	7	8	12	12	8	13	8	9	9
10	12	10	11	7	11	7	7	13	9
10									

Set up a frequency table for this set of data values, grouping the data in **six groups** with intervals of two. You will need extra paper for this question.



6. **Look at the data collected below and answer the questions.**

750 ml

1 000 ml

5 000 ml

Juice	Water	Milk	Milk	Juice	Water
Water	Milk	Milk	Juice	Water	Juice
Milk	Milk	Milk	Milk	Juice	Water
Juice	Water	Milk	Milk	Juice	Water
Water	Milk	Milk	Juice	Water	Juice
Milk	Milk	Milk	Milk	Juice	Water
Juice	Juice	Juice	Water	Water	Water
Milk	Milk	Milk	Juice	Water	Milk
Milk	Milk	Milk	Milk	Juice	Water
Juice	Juice	Juice	Water	Water	Water
Milk	Milk	Milk	Juice	Water	Milk
Juice	Juice	Juice	Water	Water	Water
juice	Juice	Juice	Water	water	Water

You will need extra paper to complete these questions.

a. What are you going to collect? How will you do it?
b. How will you sort (organise) your data?
c. Draw a bar graph.
d. Read the bar graph. Write a paragraph on your findings.

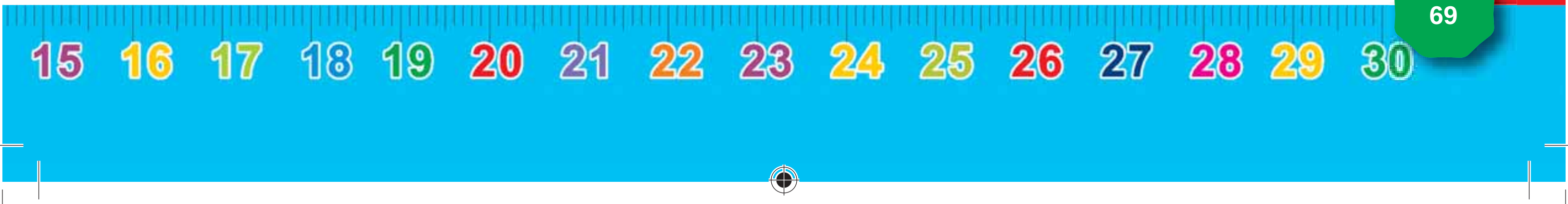
Tally competition …

In pairs see who can count the tallies the fastest.

What could the possible reason be for these tallies? Create your own scenario. Draw a bar graph to represent your scenario.

Sign:

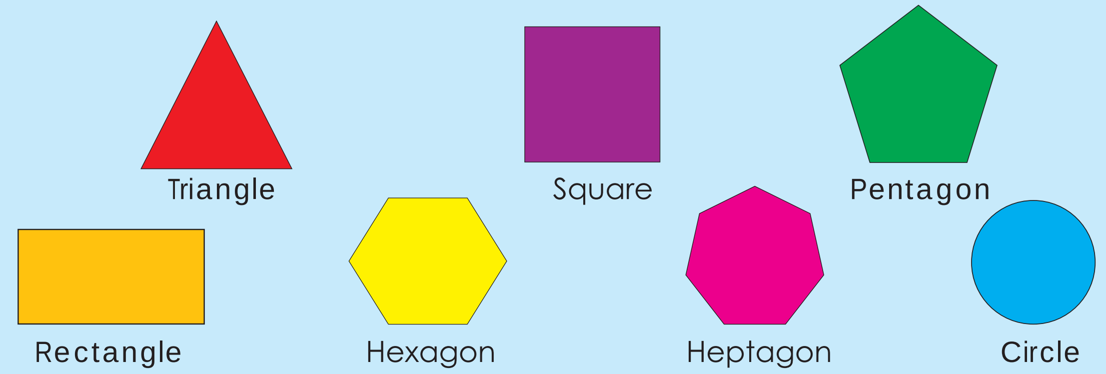
Date:



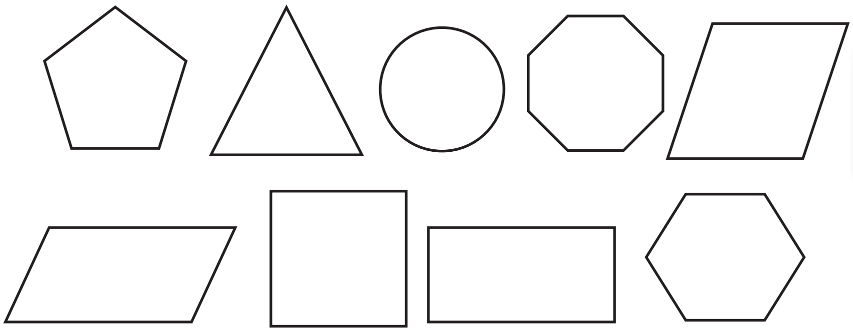
23a

2–D shapes

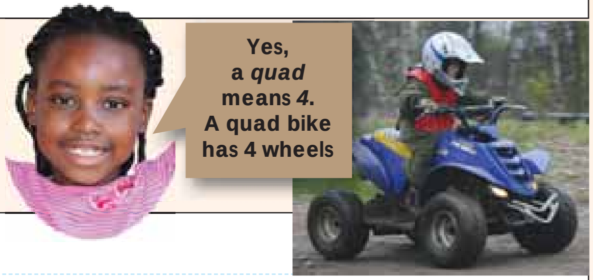
What is a polygon? Are all of these polygons? Are these the only polygons there are?



1. Colour in all the quadrilaterals.

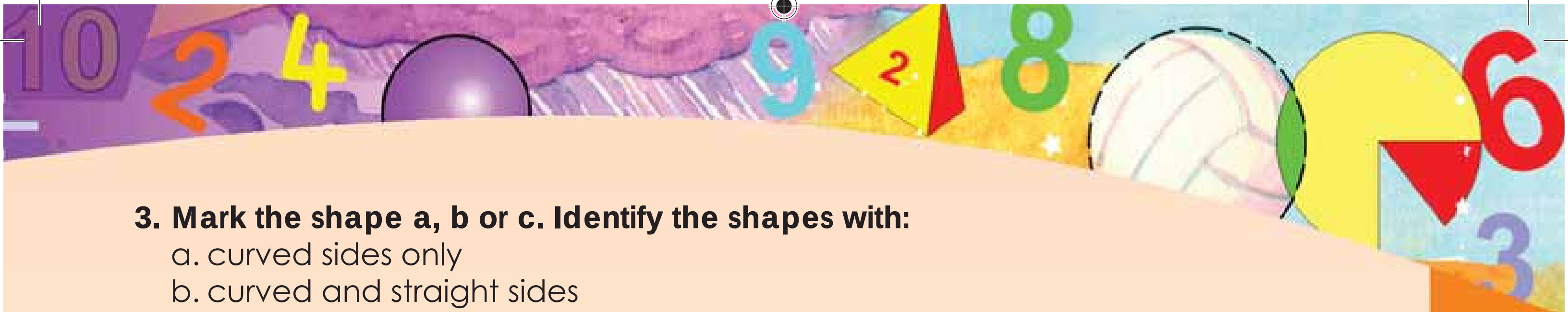


2. Answer the following:



a. Is a rectangle a quadrilateral? Why?

b. Is a square a quadrilateral? Why?

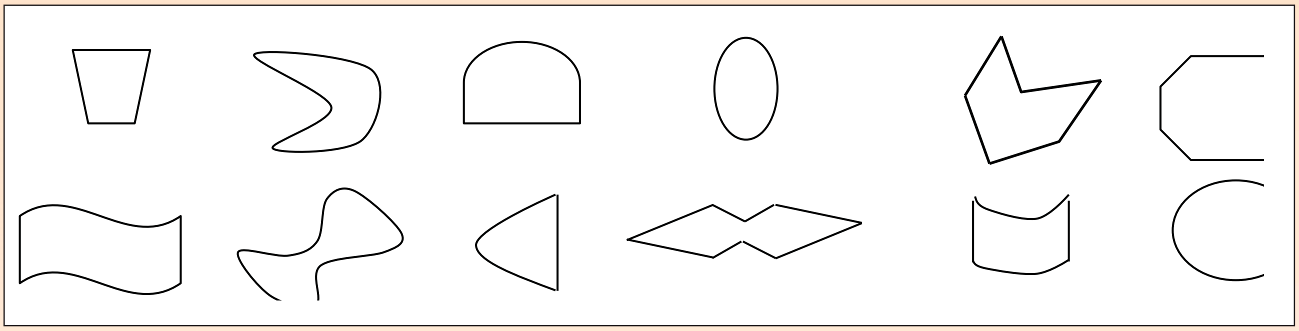


3. Mark the shape a, b or c. Identify the shapes with:

a. curved sides only

b. curved and straight sides

c. straight sides only



4. Draw five of each. Note that they should look different from the 2-D shapes above.

a. 2-D shapes with curved sides only.

b. 2-D shapes with curved and straight sides.

c. 2-D shapes with straight sides only

5. Find three shapes in nature or your environment with

- curved sides only
- curved and straight sides
- straight sides only

Make a drawing of each on a separate sheet of paper.

Sign:

Date:

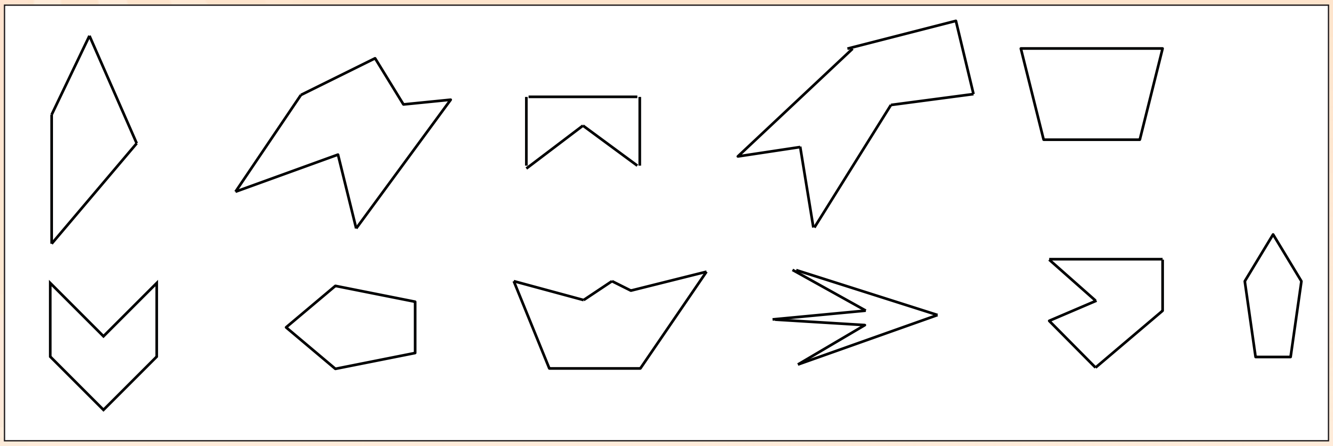
continued ☛

23b 2–D shapes continued

Term 1

6. Identify the following: Label under each shape.

Quadrilaterals; Pentagons; Hexagons; Heptagons/septagons.



7. Draw five of each, making sure they look different from the 2-D shapes above

a. Quadrilaterals

b. Pentagons

c. Hexagons

8. Draw the following:

Two right angles	Two angles smaller than a right angle	Two angles bigger than a right angle

9. Describe each 2-D shape using the following:

a. Name of polygon

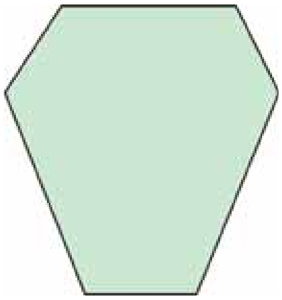
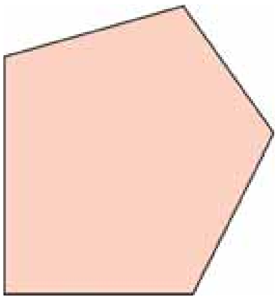
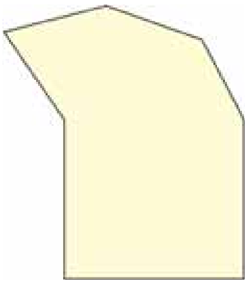
b. Sides: straight or curved

c. Sides: same or unequal length,(mark equal sides)

d. Right angles (show them).

e. Angles smaller than a right angle (show them)

f. Angles larger than a right angle (show them)

i.	ii.	iii.	iv.
			
a. Name:__________ b. Sides:__________ c. Sides:__________ d. Angles:__________ e. Angles:__________ f. Angles:__________	a. Name:__________ b. Sides:__________ c. Sides:__________ d. Angles:__________ e. Angles:__________ f. Angles:__________	a. Name:__________ b. Sides:__________ c. Sides:__________ d. Angles:__________ e. Angles:__________ f. Angles:__________	a. Name:__________ b. Sides:__________ c. Sides:__________ d. Angles:__________ e. Angles:__________ f. Angles:__________

Shape patterns

Draw a pattern using 5 different polygons.

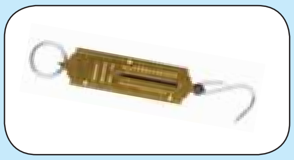
Sign:

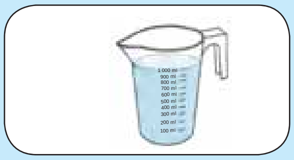
Date:

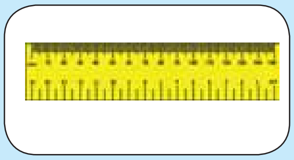
24a

Capacity/Volume

Which measuring instrument will you use to weigh objects?

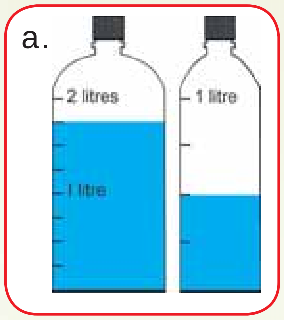




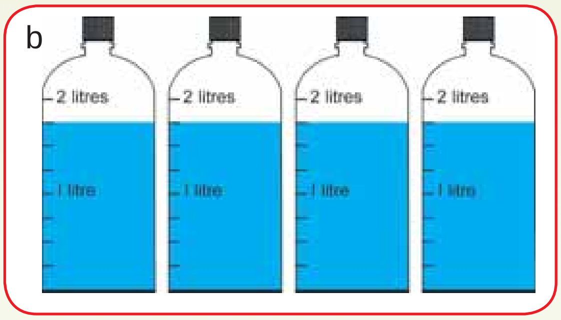


1. **These sets of bottles are filled with various quantities of cold drink. Answer the questions below.**

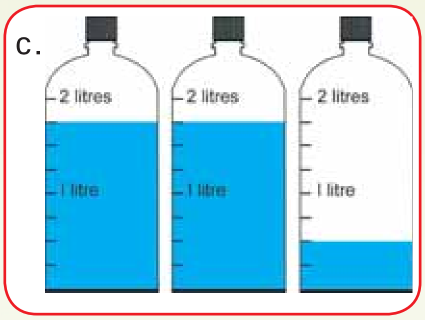
a.



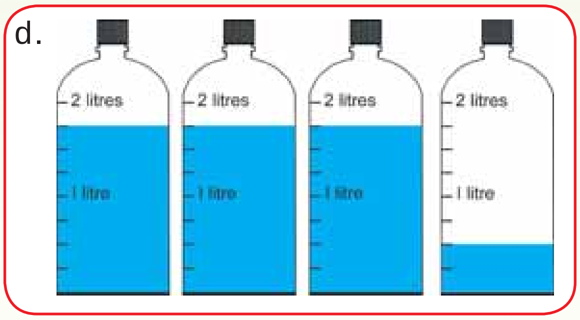
b



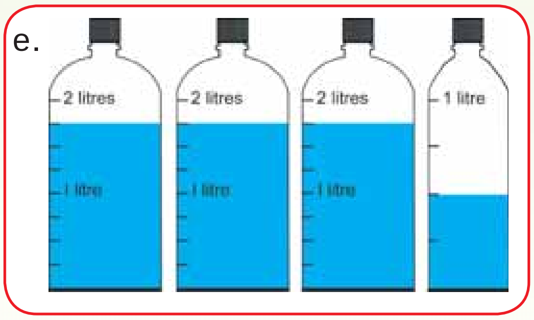
c.



d.



e.



i. **What is the total capacity of each set of bottles (with bottles filled up to the top measuring line)?**

a. ___________ b. __________ c. __________ d. __________ e. __________

ii. How much cool drink is there in each set of bottles?

Litres	Millilitres	Litres and millilitres	As a fraction of a litre
a. $2\frac{1}{4}$ ℓ	2 250 ml	2 l 250 ml	$\frac{9}{4}$ ℓ
b.			
c.			
d.			
e.			

2. Write the following as ℓ and ml.

a. 3,5 ℓ = 3 ℓ 500 ml

b. 2,7 ℓ = ________

c. 9,2 ℓ = ________

d. 4,4 ℓ = ________

e. 7,250 ℓ = ________

f. 8,320 ℓ = ________

g. 1,725 ℓ = ________

h. 10,76 ℓ = ________

i. 9,25 ℓ = ________

j. 11,15 ℓ = ________

3. Joan used 2,5 ℓ of water for making coffee, 60,5 ℓ for doing her washing and 3,5 ℓ or washing dishes. How much water did she use altogether?

Continue on an extra sheet of paper.

Sign:

Date:

24b Capacity/Volume continued

Term 1

4. Say what is the:

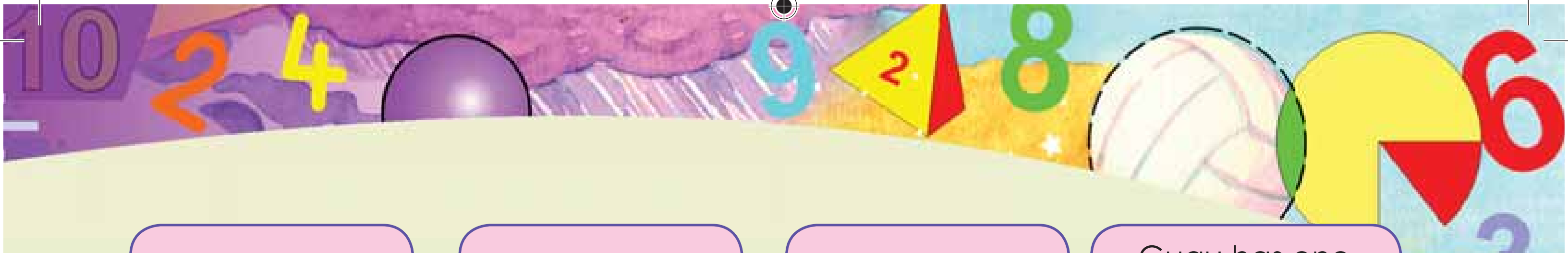
- capacity of each container
- volume of the liquid in each container
- difference between full capacity and volume

Capacity is...
Volume is...

a.	b.
	
Capacity: 500 ml	Capacity: ______________________________
Volume: 300 ml	Volume: ________________________________
Difference: 500 ml – 300 ml = 200 ml	Difference: _____________________________

5. I have a 1 000 ml container. It is filled to the 500 ml mark . What should I do to fill it to full capacity?

6. Make drawings to illustrate your answers. Jabu has 1 *l* and 250 m *l* of water to water his vegetables. Calculate how much the following people have.



Sipho has double the volume.

Linda has 1 ℓ 500 ml to water her vegetables.

James has 1 ℓ 100 ml to water his vegetables.

Gugu has one fifth of what Jabu has to water her vegetables.

7. Round your answers off to the nearest litre.

Drawing 1	
Drawing 2	
Drawing 3	
Drawing 4	

Millimetre fun . . .

Collect some junk mail. Find items where measurements are given in millilitres and litre.

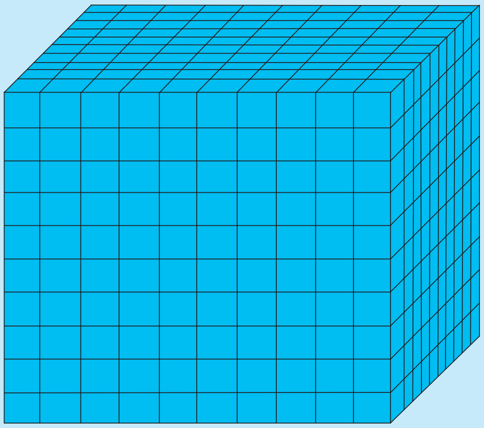
I need to mix the juice concentrate with water for us to drink it. It says 1 ℓ to 4 ℓ of water. How much juice will I have in total?

Sign:

Date:

25a Numbers 0 –20 000

How many of these blocks do you need to give you a total of 20 000 small cubes?



1. Complete the following:

a. 10 000 + 1 000 + 800 + 40 + 2 = ☐

b. 10 000 + 5 000 + 300 + 60 + 9 = ☐

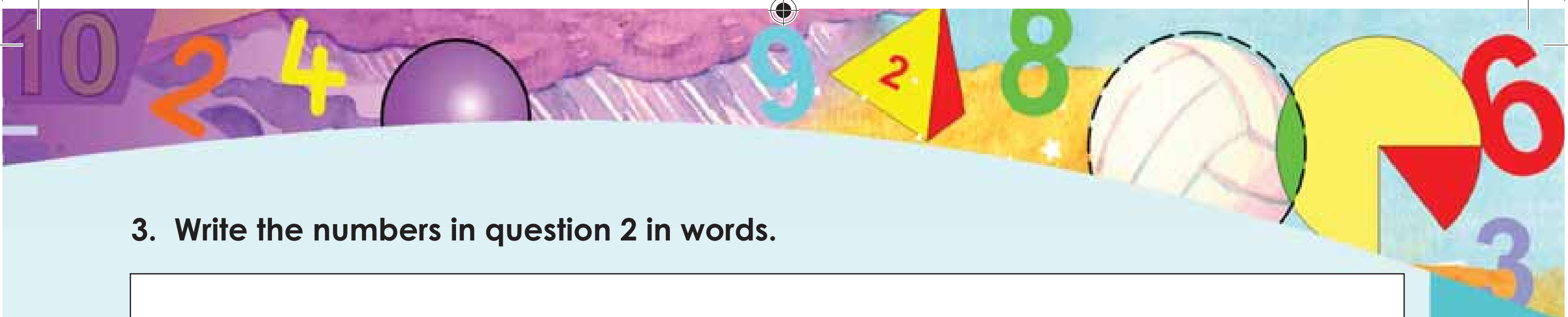
c. 10 000 + 4 000 + 700 + 6 = ☐

d. 10 000 + 8 000 + 60 + 7 = ☐

e. 10 000 + 3 = ☐

2. Write the number in the correct column:

	Number	Ten thousands	Thousands	Hundreds	Tens	Units
a.	15 519					
b.	14 901					
c.	18 007					
d.	10 040					
e.	10 003					



3. Write the numbers in question 2 in words.

4. Complete the following using the first question to guide you.

a. 13 847 = 1 ten thousand + 3 thousands + 8 hundreds + 4 tens + 7 units

b. 9 745 = ____________________

c. 11 348 = ____________________

d. 15 721 = ____________________

e. 19 090 = ____________________

Sign:

Date:

continued ☛

25b Numbers 0 –20 000 continued

5. Write the numbers in question 4 in words.

Continue on an extra sheet of paper.

6. Arrange the numbers from the smallest to the biggest.

a. 15 147 , 15 471, 15 174 , 10 650 ____

b. 10 231, 10 132 , 10 123 , 10 213 ____

c. 12 541, 12 145, 12 154 , 12 415 ____

d. 18 639 , 18 369 , 18 693 , 18 396 ____

e. 10 505 , 10 055 , 10 550 , 10 555 ____

7. Fill in < or >.

a. 9 248 ____ 9 284

b. 10 320 ____ 10 230

c. 11 121 ____ 11 112

d. 12 041 ____ 12 401

e. 13 514 ____ 14 514

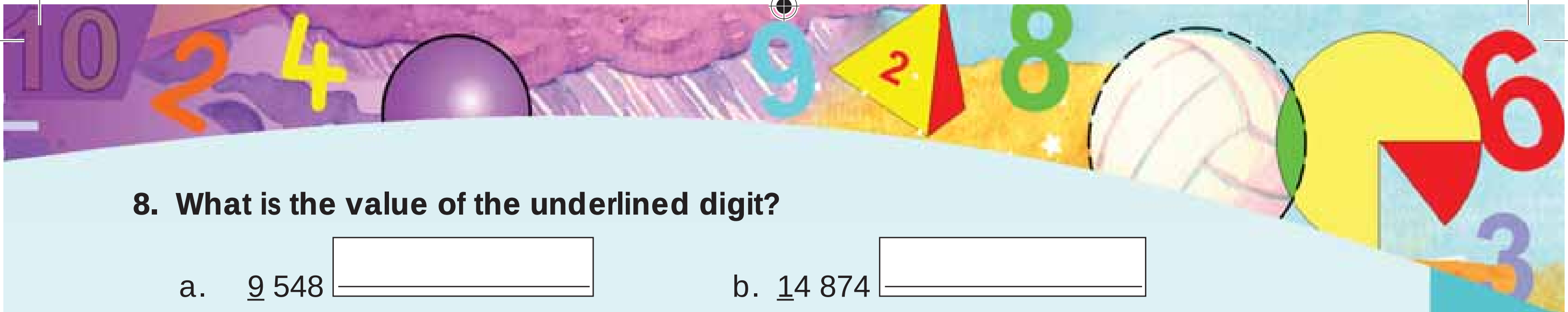
f. 11 212 ____ 12 121

g. 15 145 ____ 15 154

h. 3 798 ____ 3 788

i. 19 987 ____ 19 978

j. 16 616 ____ 16 166



8. What is the value of the underlined digit?

a. $\underline{9}$ 548 ______

b. $\underline{1}$4 874 ______

c. 10 58$\underline{7}$ ______

d. 16 3$\underline{5}$4 ______

e. 18 $\underline{2}$01 ______

f. 1$\underline{4}$ 008 ______

9. Complete the following:

3 8 1 6 5

a. Use each digit once, make the smallest 5-digit number: ______

b. Use each digit once, make the largest 5-digit number: ______

c. You can use a digit twice, make the smallest 5-digit number: ______

d. You can use a digit twice, make the largest 5-digit number: ______

All about numbers

What you need:
Newspaper.

- Find at least five, 5-digit numbers in a newspaper.
- What is the meaning of the 5-digit number?

Sign:

Date:

26 Rounding off

Look at the symbols below and describe them.

When we want to say 6 + 5 is equal to 11, we use the symbol =

=

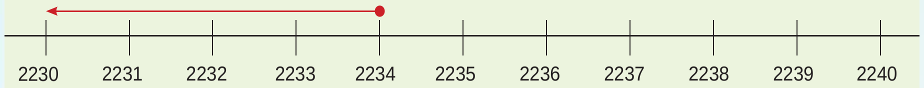
When we want to say 6 rounded off to the nearest 10 we use the symbol ≈

≈

Rounding off to the nearest ten.

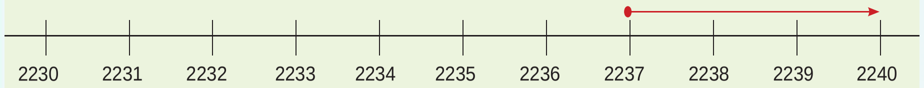
Round off the numbers that end in a digit from **1** to **4** to the previous (lower) ten.

Example: 2 234 rounded off to the nearest ten is 2 230.



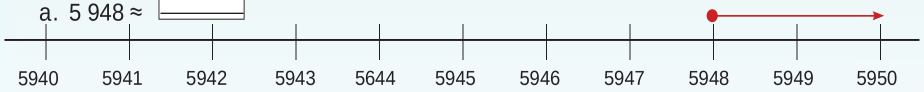
Round off numbers that end in a digit from **5** to **9** to the next (higher) ten.

Example: 2 237 rounded off to the nearest ten would be 2 240.

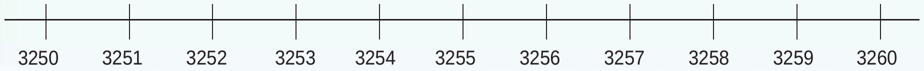


1. **Round the following numbers off to the nearest ten using the number lines provided.**

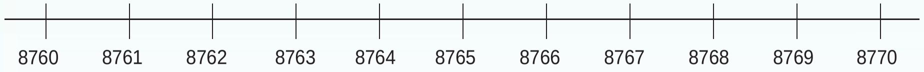
a. 5 948 ≈ ☐



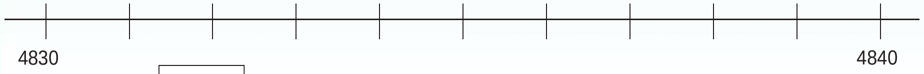
b. 3 253 ≈ ☐



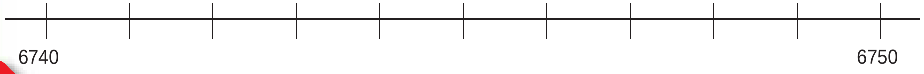
c. 8 762 ≈ ☐



d. 4 839 ≈ ☐



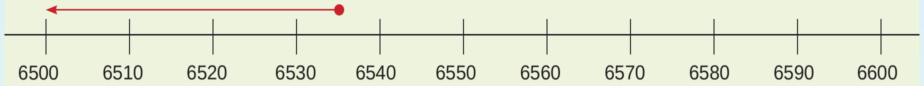
e. 6 744 ≈ ☐



Rounding off to the nearest hundred.

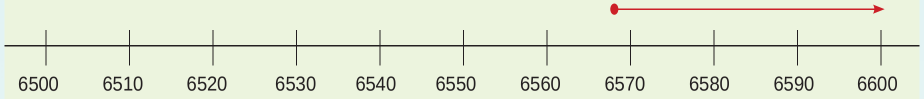
If the tens digit is a 0, 1, 2, 3 or 4, round off the number to the previous (lower) hundred.

Example: 6 535 rounded off to the nearest hundred would be 6 500.



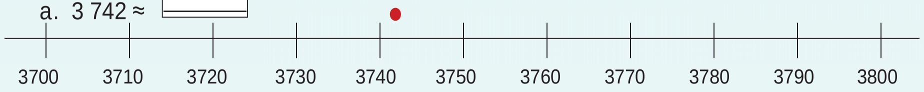
If the tens digit is a 5, 6, 7, 8 or 9, round off the number to the next (higher) hundred.

Example: 6 5**6**7 rounded off to the nearest hundred would be 6 600.

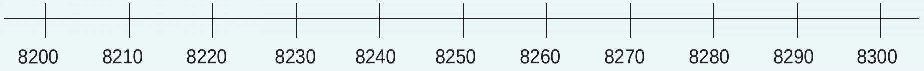


2. **Round the following numbers off to the nearest hundred using the number lines provided.**

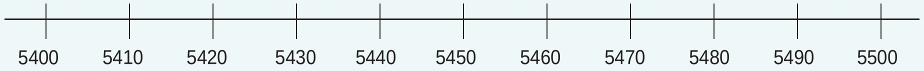
a. 3 742 ≈ ☐



b. 8 265 ≈ ☐

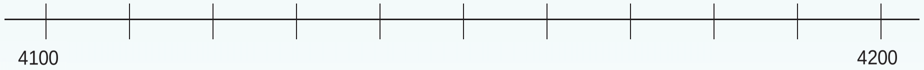


c. 5 419 ≈ ☐



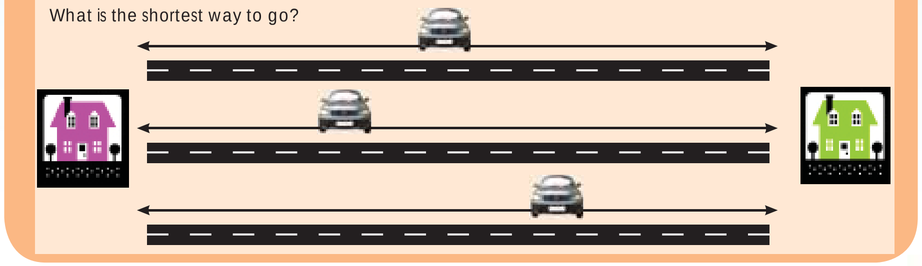
d. 7 878 ≈ ☐

e. 4 123 ≈ ☐



Just remember ...

What is the shortest way to go?



Sign:

Date:

27a Rounding off to the nearest 5

0	1	2	3	4	5	6	7	8	9	10

Look at the numbers with grey backgrounds.

Where does the number 1 lie on this row? Which grey number is it closest to? Look at the numbers 2, 3, 4, 6, 7, 8, 9.

Is 1 closer to 0 or 5?
Is 2 closer to 0 or 5?
Is 3 closer to 0 or 5?
Is 4 closer to 0 or 5?

Is 6 closer to 5 or 10?
Is 7 closer to 5 or 10?
Is 8 closer to 5 or 10?
Is 9 closer to 5 or 10?

1. Round the following numbers off to the nearest 5.

10	11	12	13	14	15	16	17	18	19	20

a. **12.** Is it closer to 10 or 15? ____ **12** ≈ ____

b. **14.** Is it closer to 10 or ____ ? ____ **14** ≈ ____

c. **11.** Is it closer to ____ or ____ ? ____ **11** ≈ ____

d. **18.** Is it closer to 15 or ____ ? ____ **18** ≈ ____

e. **16.** Is it closer to ____ or ____ ? ____ **16** ≈ ____

140	141	142	143	144	145	146	147	148	149	150

f. **148.** Is it closer to ____ or ____ ? ____ **148** ≈ ____

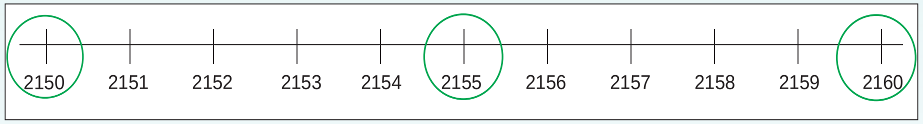
g. **143.** Is it closer to ____ or ____ ? ____ **143** ≈ ____

h. **147.** Is it closer to ____ or ____ ? ____ **147** ≈ ____

i. **144.** Is it closer to ____ or ____ ? ____ **144** ≈ ____

j. **149.** Is it closer to ____ or ____ ? ____ **149** ≈ ____

2. Use the number line to round off the numbers to the nearest 5.



a. 2 152 ≈ ____

b. 2 154 ≈ ____

c. 2 159 ≈ ____

d. 2 153 ≈ ____

e. 2 156 ≈ ____

f. 2 157 ≈ ____

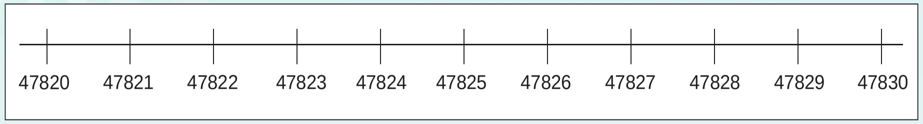
g. 2 158 ≈ ____

Sign:
Date:

continued ☛

27b Rounding off to the nearest 5 continued

3. Use the number line to round off the numbers to the nearest 5.



a. 47 826 ≈ ☐

b. 47 829 ≈ ☐

c. 47 827 ≈ ☐

d. 47 822 ≈ ☐

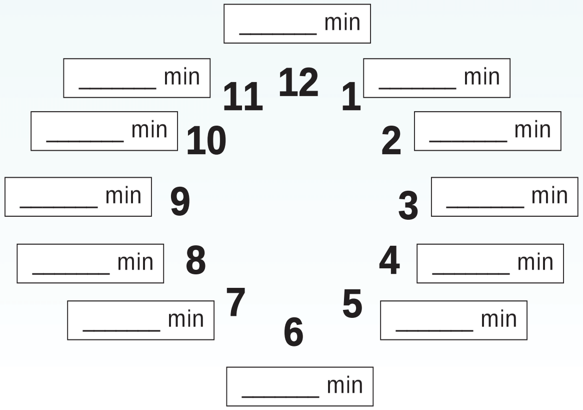
e. 47 823 ≈ ☐

f. 47 821 ≈ ☐

g. 47 828 ≈ ☐

4. Look at the clock and answer the questions.

a. Count in minutes: 5 min, 10 min, 15 min, ...



b. What minute numbers will I find between 5 minutes and 10 minutes? ☐

c. What minute numbers will I find between 35 minutes and 40 minutes? ☐

d. What minute numbers will I find between 50 minutes and 55 minutes? ☐

e. Round off the following to the nearest five minutes:

i. 14 minutes ≈ ☐

ii. 27 minutes ≈ ☐

iii. 43 minutes ≈ ☐

iv. 51 minutes ≈ ☐

v. 19 minutes ≈ ☐

vi. 36 minutes ≈ ☐

How fast can you round off ?

Colour in the correct answer.

Round off 78 to the nearest 5.

79	75	87
57	78	77
80	76	70

Round off 99 to the nearest 5.

98	99	10
9	90	100
95	97	59

Round off 126 to the nearest 5.

130	100	120
128	127	162
126	200	125

Round off 234 to the nearest 5.

200	230	250
236	233	235
243	234	240

Sign:

Date:

Term 2

28 Completing numbers

Quick recall

48 + ☐ = 100	72 + ☐ = 100	26 + ☐ = 100	92 + ☐ = 100
52 + ☐ = 100	32 + ☐ = 100	48 + ☐ = 100	47 + ☐ = 100
86 + ☐ = 100	15 + ☐ = 100	12 + ☐ = 100	61 + ☐ = 100
45 + ☐ = 100	65 + ☐ = 100	87 + ☐ = 100	13 + ☐ = 100
74 + ☐ = 100	39 + ☐ = 100	55 + ☐ = 100	44 + ☐ = 100

1. Calculate the missing number as quickly as you can.

a.150 + ☐ = 200
b. 180 + ☐ = 200
c. 330 + ☐ = 400
d. 310 + ☐ = 400
e. 660 + ☐ = 700
f. 540 + ☐ = 600
g. 870 + ☐ = 900
h. 290 + ☐ = 300
i. 920 + ☐ = 1 000
j. 80 + ☐ = 100

2. Calculate the missing number:

a. 145 + ☐ = 200
b. 215 + ☐ = 300
c. 320 + ☐ = 400
d. 885 + ☐ = 900
e. 255 + ☐ = 300
f. 575 + ☐ = 600
g. 905 + ☐ = 1 000
h. 365 + ☐ = 400
i. 775 + ☐ = 800
j. 735 + ☐ = 800

3. Calculate the missing number:

a. 153 + ☐ = 200
b. 178 + ☐ = 200
c. 242 + ☐ = 300
d. 357 + ☐ = 400
e. 439 + ☐ = 500
f. 474 + ☐ = 500
g. 512 + ☐ = 600
h. 609 + ☐ = 700
i. 916 + ☐ = 1 000
j. 733 + ☐ = 800

4. Calculate the missing number as quickly as you can.

a. 1 600 + ☐ = 2 000
b. 2 300 + ☐ = 3 000
c. 3 100 + ☐ = 4 000
d. 8 400 + ☐ = 9 000
e. 8 800 + ☐ = 9 000
f. 7 500 + ☐ = 8 000
g. 4 200 + ☐ = 5 000
h. 6 700 + ☐ = 7 000
i. 5 900 + ☐ = 6 000
j. 9 600 + ☐ = 10 000

5. Calculate the missing number:

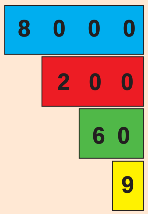
a. 12 450 + ☐ = 13 000
b. 10 560 + ☐ = 11 000
c. 9 640 + ☐ = 10 000
d. 11 870 + ☐ = 12 000
e. 13 720 + ☐ = 14 000
f. 15 120 + ☐ = 16 000
g. 19 580 + ☐ = 20 000
h. 18 810 + ☐ = 19 000
i. 17 430 + ☐ = 18 000
j. 14 070 + ☐ = 15 000

6. Calculate the missing number:

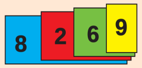
a. 10 784 + ☐ = 11 000
b. 11 877 + ☐ = 12 000
c. 11 819 + ☐ = 12 000
d. 12 627 + ☐ = 13 000
e. 13 561 + ☐ = 14 000
f. 12 753 + ☐ = 13 000
g. 14 436 + ☐ = 15 000
h. 19 213 + ☐ = 20 000
i. 17 409 + ☐ = 18 000
j. 15 126 + ☐ = 16 000

Number card fun ....

What you need:
Number (flard) cards from cut-out 2.



What to do:
- Play in pairs.
- Place the cards face down.
- The first player must choose one of each: thousand, hundreds, tens and unit number card cards, and displays them as a number.



- The first player that fills the number up to the next 10 000, gets a point.
- Then player two chooses the cards.
- Repeat five times.
- The player with the highest score is the winner.

Sign:
Date:

29a Addition with up to 5-digit numbers

Term 2

What is the difference between the numbers?

1 100	1 200	1 300	1 400	1 500	1 600	1 700	1 800	1 900	2 000
2 005	3 005	4 005	5 005	6 005	7 005	8 005	9 005	10 005	11 005
9 750	9 850	9 950	10 050	10 150	10 250	10 350	10 450	10 550	10 650
9 500	10 000	10 500	11 000	11 500	12 000	12 500	13 000	13 500	14 000
10 750	11 750	12 750	13 750	14 750	15 750	16 750	17 750	18 750	19 750

1. What number comes next?

a. 6 600, 7 600, 8 600, ☐ b. 10 500, 11 500, 12 500, ☐

c. 14 300, 14 400, 14 500, ☐ d. 12 750, 13 000, 13 250, ☐

2. Complete the table.

Number	Add 10	Add 100	Add 1 000	Add 10 000
10 950				
8 780				
12 900				
14 060				
17 009				

Examples:

Example 1:

11 547 + 4 587
= 10 000 + 1 000 + 4 000 + 500 + 500 + 40 + 80 + 7 + 7
= 10 000 + 5 000 + 1 000 + 120 + 14
= 10 000 + 6 000 + 100 + 20 + 10 + 4
= 10 000 + 6 000 + 100 + 30 + 4
= 16 134

Example 2:

$$\begin{array}{rccccccl} & 1 & 1 & 5 & 4 & 7 & & \\ + & & 4 & 5 & 8 & 7 & & \\ \hline & & & & 1 & 4 & & (7 + 7) \\ & & & 1 & 2 & 0 & & (40 + 80) \\ & & 1 & 0 & 0 & 0 & & (500 + 500) \\ & & 5 & 0 & 0 & 0 & & (1\ 000 + 4\ 000) \\ + & 1 & 0 & 0 & 0 & 0 & & (10\ 000 + 0) \\ \hline & 1 & 6 & 1 & 3 & 4 & & \end{array}$$

3. Use both methods shown in the examples above to calculate the following. Write down the steps on an extra sheet of paper.

a. 9 568 + 10 247 = b. 3 148 + 15 209 =

Continue on an extra sheet of paper.

c. 8 632 + 8 799 = d. 12 982 + 4 789 =

Continue on an extra sheet of paper.

e. 7 952 + 9 710 = f. 9 999 + 8 347 =

Continue on an extra sheet of paper.

Sign:

Date:

continued ☛

29b Addition with up to 5-digit numbers

continued

4. Solve the following word problems.

a. At the soccer match, there were 12 231 men and 7 893 women. How many people were there altogether at the soccer match?

Continue on an extra sheet of paper.

b. Michael is practising for a fun run. The first day he ran 4 189 m and the second day he ran 4 567 m. How far did he run in those two days?

Continue on an extra sheet of paper.

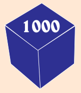
5. Write an appropriate and interesting word sum for 15 000 and 3 000. Solve it.

Continue on an extra sheet of paper.

+

What is the size of your number?

What you need:
Use the 1 000s dice you made before. (Cut–out 3)
- Piece of paper.



What to do:
- Individual game against a group or the class.
- Roll the 1 000s dice.
- Add the number landed on, to the first number on the blue card. Write your addition sum on a piece of paper.
- Do the same with the 2nd to the 5th number.
- Learners check each others' addition sums.
- The winner is the person with the most correct answers.

2 999
5 783
3 874
12 342
18 209

Sign:

Date:

30a Subtraction up to 5-digit numbers

What is the difference between the numbers?

1 000	2 000	3 000	4 000	5 000	6 000	7 000	8 000	9 000	10 000
3 006	4 006	5 006	6 006	7 006	8 006	9 006	10 006	11 006	12 006
10 050	11 050	12 050	13 050	14 050	15 050	16 050	17 050	18 050	19 050
10 250	10 260	10 270	10 280	10 290	10 300	10 310	10 320	10 330	10 340
9 500	10 500	11 500	12 500	13 500	14 500	15 500	16 500	17 500	18 500

1. What number comes next?

a. 7 500, 7 400, 7 300, ☐

b. 13 250, 12 250, 11 250, ☐

c. 18 400, 17 400, 16 400, ☐

d. 15 550, 14 550, 13 550, ☐

2. Complete the table

Number	Subtract 10	Subtract 100	Subtract 1 000	Subtract 10 000
18 210				
17 540				
14 590				
13 900				
10 030				

Examples:

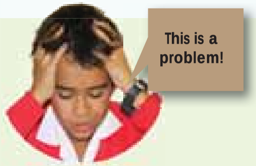
Example 1:

19 845 – 8 478

= 10 000 + (9 000 – 8 000) + (800 – 400) + (40 – 70) + (5 – 8)

= 10 000 + 1 000 + 400 + (30 – 70) – (15 – 8)

= 10 000 + 1 000 + 300 + (130 – 70) – (15 – 8) = 10 000 + 1 000 + 300 + 60 + 7= 11 367



Example 2:

$$\begin{array}{rccccc l}
 & 1 & 9 & 8 & 4 & 5 & \\
- & & 8 & 4 & 7 & 8 & \\ \hline
 & & & & & 7 & (15 - 8) \\
 & & & & 6 & 0 & (130 - 70) \\
 & & & 3 & 0 & 0 & (800 - 500) \\
 & & 1 & 0 & 0 & 0 & (9\ 000 - 8\ 000) \\
+ & 1 & 0 & 0 & 0 & 0 & (10\ 000 - 0) \\ \hline
 & 1 & 1 & 3 & 6 & 7 &
\end{array}$$

3. Use both methods to solve the subtraction sums.

a. 19 521– 7 214 =

b. 18 674 – 3 874 =

Continue on an extra sheet of paper.

c. 17 685 – 6 498 =

d. 18 741 – 9 688 =

Continue on an extra sheet of paper.

e. 19 548 – 12 358 =

f. What method do you prefer? Why?

Continue on an extra sheet of paper.

Sign:

Date:

continued ☛

30b Subtraction up to 5-digit numbers

continued

4. Solve the following word subtraction sums.

a. There were 15 876 people in the soccer stadium. 10 minutes before the final whistle, there were only 12 659 people left. How many people had already left the stadium?

Continue on an extra sheet of paper.

b. Mary bought 18 000 mm of rope. If she uses 10 550 mm, how many millimetres of rope does she have left?

Continue on an extra sheet of paper.

5. Write an appropriate and interesting subtraction word sum for: 190 000 and 35 000. Solve it.

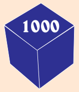
Continue on an extra sheet of paper.

–

What is the size of your number?

What you need:

- Use the 1 000s dice you made before.
- Piece of paper.



What to do:

- Individual game against a group or the class.
- Roll the 1 000s dice.
- Subtract the number landed on, from the first number on the blue card. Write your subtraction sum on a piece of paper.
- Do the same with the 2nd to the 5th number.
- Learners check each others' subtraction sums.
- The winner is the person with the most correct answers.

15 342
18 3097
16 799
19 009
17 032

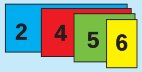
Sign:

Date:

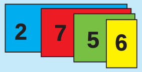
31 Adding and subtracting 4-digit numbers

Revise the following:

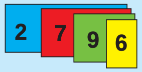
Show 2 456 with your **place value cards**.



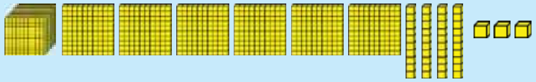
Add 300. Show it again with your **place value cards**.



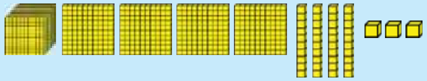
Add 40 and show it.



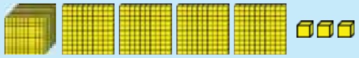
Show 1 643 with your **base ten blocks**.



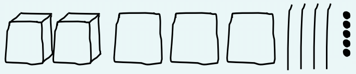
Subtract 200 and show it again.



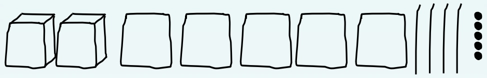
Subtract 40 and show it again.



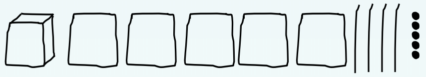
1. Your friend showed 2 345 by drawing base ten blocks. Write a number sentence for what he did.



Add 200.



Subtract 1 000 and show it.



2. Calculate:

Example: Calculate 5 241 + 3 426

5 241 + 3 000 → 8 241 + 400 → 8 641 + 20 → 8 661 + 6 → 8 667

a. 25 806 + 1 153

b. 14 281 + 12 317

3. Calculate:

Example: Calculate 5 362 + 2 486

5 362 + 2 000 → 7 362 + 400 → 7 762 + 80 → 7 842 + 6 → 7 848

This may become difficult when more than two numbers are added.

a. 34 235 + 3 896

b. 46 968 + 21 035

4. Calculate:

Example:

Subtracting by breaking down the number to be subtracted.

Calculate 4 687 – 2 143

4 687 – 2 000 → 2 687 – 100 → 2 587 – 40 → 2 547 – 3 = 2 544

This may get difficult if more than two numbers are subtracted.

a. 16 735 – 2 514

b. 29 353 – 17 142

5. Calculate:

Example:

Calculate 2 486 + 148

2 486 + 148 = 2 486 + 14 – 14 + 148 = 2 500 + 134 = 2 500 + 100 + 34 = 2 634

a. 3 584 + 147

b. 2 481 + 128

c. 3 672 + 176

6. Calculate:

Example:

Calculate 2 696 + 2 387

2 296 + 2 387

= 2 296 + 4 – 4 + 2 387

= 2 300 + 2 683

= 4 983

a. 2 392 + 1 476

b. 4 594 + 2 274

c. 5 785 + 3 147

Solve the problems

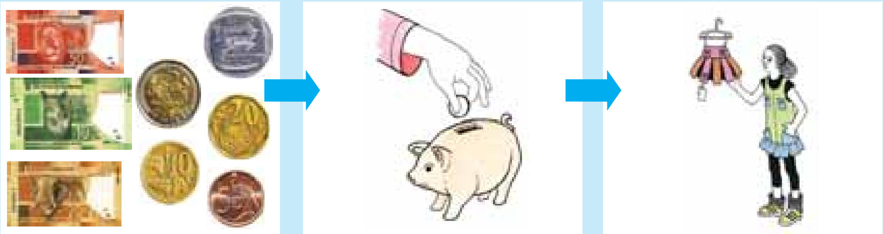
a. My dad bought a hi-fi for R13 765. My uncle paid R12 990 for his. How much more did my dad pay?
b. 23 458 people live in Lwandle and 25 249 people live in Sun City. How many more people live in Sun City than Lwandle?

Sign:

Date:

Money problems

Talk about money. Look at the picture and make up your own story.



1. Colour the combination that will give you:

a. **R2** R1 R50 R2 R1 R5 R1

b. **R1** R0,50 R0,50 R0,20 R0,20 R0,20 R0,10

c. **R5** R0,50 R2 R1 R0,50 R0,50 R2 R0,50

d. **R3,50** R0,20 R2 R1 R0,20 R0,50 R2 R0,10

e. **R2,55** R1 R2 R1 R0,20 R0,50 R0,20 R0,10 R0,05

2. How much money will I have if I save the following amounts?

a. R2 + R1 + R5 + R20 = ☐

b. 10c + 20c + 20c + 5c = ☐

c. 50c + 20c + 50c + 5c + 10c = ☐

d. 5c + R5 + 20c + R1 + R2 + 50c = ☐

e. 50c + 20c + 5c + R 5,50 + 10c + 65c + R10 = ☐

3. How much money will I have left if I spend the following amounts?

I have	I spent	I have left
R20	R5, R2, R5	
R15	20c, 50c	
R15	50c, 5c, 20c, 5c,10c, 2c	
R12	R2, 20c, 50c, 5c, R1, 5c, 20c	
R20	R1,20c, 5c, R5, 50c, 70c, R2	

4. Calculate the following:

a. R12 – R5 – R2 + R1 – R2 = ☐

b. R2,50 – 20c + 50c + 10c – 50c – 20c = ☐

c. R15 – 50c + 10c + 20c – 5c – 20c = ☐

d. R2 + 50c + R5 + R1 – R2 – 5c = ☐

e. R3 + 50c + 20c + 5c – 10c + R7,25 – R1,05 + 20c = ☐

5. How many combinations can you make to get R 1,00 ?

Continue on an extra sheet of paper.

Money fun ....

Look at the animals on these notes. Do you know what "the Big Five" are?

Sign:

Date:

33 Saving, Buying and Selling

Term 2

Five friends talk about saving money.

1. Answer the following questions:

a. I sold a book for R50 at a second-hand book shop. I bought a second-hand book for R25,00. How much change did I get? Show your calculations below.

Continue on an extra sheet of paper.

b. I sold my old bicycle for R150,00 to my friend. I bought myself a new soccer ball for R89,99. How much money did I have left? Show your calculations below.

Continue on an extra sheet of paper.

c. You sold your soccer jersey for R65,00. You bought some soccer socks for R19,99 and new colour pencils for R23,50. How much money do you have left?

Continue on an extra sheet of paper.

2. You have saved some money. Now you are having a Jumble sale to make some more money so that you can buy what you want. You need to put a price tag on each item you are going to sell. Do this.

a. How much money have you saved already?

b. What do you want to buy? What is the price?

c. How much will you make selling all the items?

d. Will you have money left over after you buy what you want?

Find out....

Find out from your nearest vendor or shop the following:

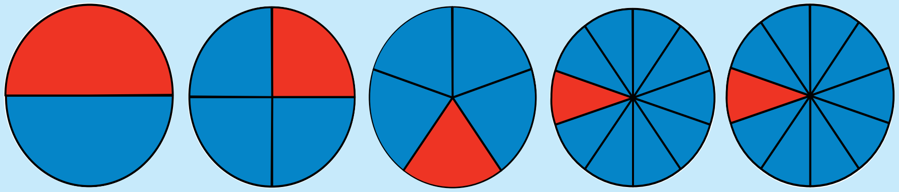
1. What are the common items they buy each month?
2. What are the common items they sell each month?

Sign:

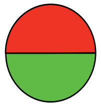
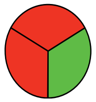
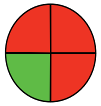
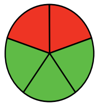
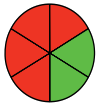
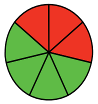
Date:

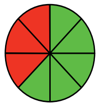
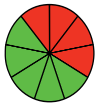
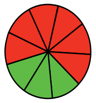
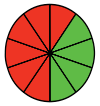
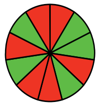
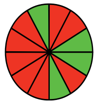
34 Fractions

What fraction of each circle is red?

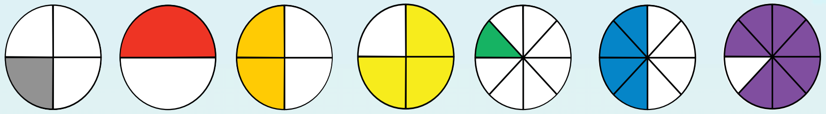


1. Complete the tables below.

Fraction circle	What fraction is red?	What fraction is green?
a. 	$\frac{1}{2}$	$\frac{1}{2}$
b. 		
c. 		
d. 		
e. 		
f. 		

Fraction circle	What fraction is red?	What fraction is green?
a. 		
b. 		
c. 		
d. 		
e. 		
f. 		

2. Use the fraction circles to answer the questions.



Fill in <,> or =

a. $\frac{4}{8}$ ☐ $\frac{3}{4}$

b. $\frac{1}{2}$ ☐ $\frac{2}{4}$

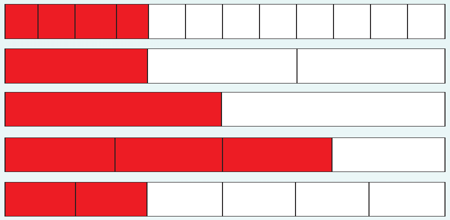
c. $\frac{7}{8}$ ☐ $\frac{3}{4}$

d. $\frac{1}{2}$ ☐ $\frac{4}{8}$

e. $\frac{1}{8}$ ☐ $\frac{1}{4}$

f. $\frac{2}{4}$ ☐ $\frac{7}{8}$

3. Use the fraction strips to answer the questions. Fill in <,> or =.



a. $\frac{4}{12}$ ☐ $\frac{1}{3}$

b. $\frac{1}{2}$ ☐ $\frac{1}{3}$

c. $\frac{3}{4}$ ☐ $\frac{1}{2}$

d. $\frac{2}{6}$ ☐ $\frac{1}{3}$

e. $\frac{1}{2}$ ☐ $\frac{2}{6}$

f. $\frac{4}{12}$ ☐ $\frac{2}{6}$

4. Which fraction comes next if I count forwards?

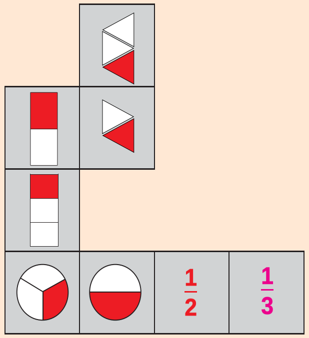
a. $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ ☐

b. $\frac{1}{7}$ $\frac{2}{7}$ $\frac{3}{7}$ ☐

c. $\frac{1}{10}$ $\frac{2}{10}$ $\frac{3}{10}$ ☐

d. $\frac{6}{12}$ $\frac{7}{12}$ $\frac{8}{12}$ ☐

Fraction Dominoes



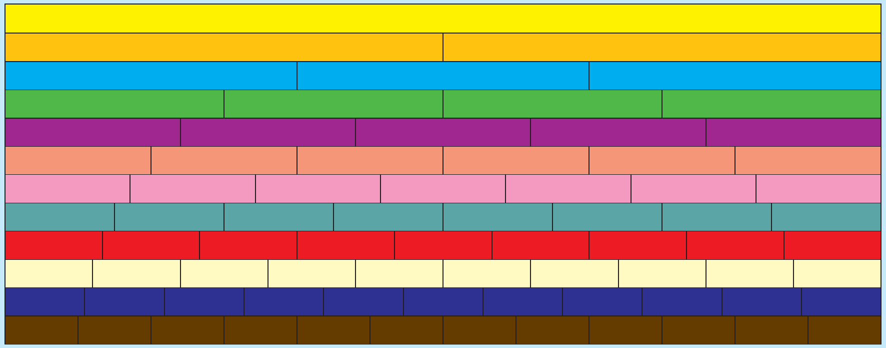
- Use cut–out 5.
- After shuffling the dominoes, each player draws tiles to make up their hand. The number of tiles drawn depends on the number of players.
- The player with the largest fraction starts the game. Play goes to the left (clockwise). Each player adds a domino to an open end of the layout, if possible.
- A player who cannot make a move must pass. The game ends when one player uses the last domino in his or her hand, or when no more plays can be made. If all players still have tiles in their hand, but cannot make any more moves, then the game is said to be "blocked".

Sign:

Date:

35 Equivalent and comparing fractions

Write the fraction on each part.



1. What fraction is equal to:

a. $\frac{1}{2}$ ☐

b. $\frac{6}{8}$ ☐

c. $\frac{1}{3}$ ☐

d. $\frac{3}{12}$ ☐

e. $\frac{6}{9}$ ☐

2. Give five fractions that are bigger than:

a. $\frac{1}{2}$ ☐ ☐ ☐ ☐ ☐

b. $\frac{1}{4}$ ☐ ☐ ☐ ☐ ☐

c. $\frac{2}{5}$ ☐ ☐ ☐ ☐ ☐

d. $\frac{3}{8}$ ☐ ☐ ☐ ☐ ☐

e. $\frac{3}{10}$ ☐ ☐ ☐ ☐ ☐

f. $\frac{1}{3}$ ☐ ☐ ☐ ☐ ☐

g. $\frac{3}{4}$ ☐ ☐ ☐ ☐ ☐

h. $\frac{3}{5}$ ☐ ☐ ☐ ☐ ☐

i. $\frac{7}{8}$ ☐ ☐ ☐ ☐ ☐

j. $\frac{8}{10}$ ☐ ☐ ☐ ☐ ☐

3. Give five fractions that are smaller than:

a. $\frac{1}{2}$ ☐ ☐ ☐ ☐ ☐

b. $\frac{1}{4}$ ☐ ☐ ☐ ☐ ☐

c. $\frac{2}{5}$ ☐ ☐ ☐ ☐ ☐

d. $\frac{3}{8}$ ☐ ☐ ☐ ☐ ☐

e. $\frac{3}{10}$ ☐ ☐ ☐ ☐ ☐

f. $\frac{5}{12}$ ☐ ☐ ☐ ☐ ☐

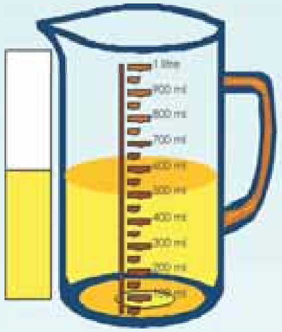
g. $\frac{1}{3}$ ☐ ☐ ☐ ☐ ☐

h. $\frac{2}{5}$ ☐ ☐ ☐ ☐ ☐

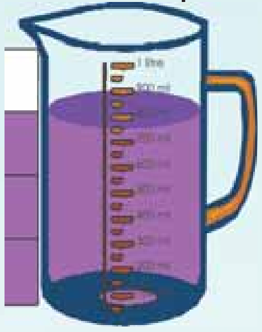
i. $\frac{2}{12}$ ☐ ☐ ☐ ☐ ☐

j. $\frac{1}{7}$ ☐ ☐ ☐ ☐ ☐

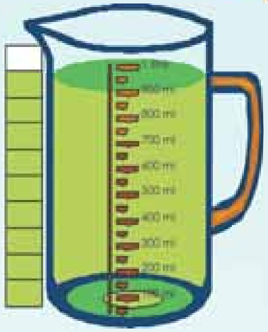
4. Look at the 1 litre jugs below and answer the questions.



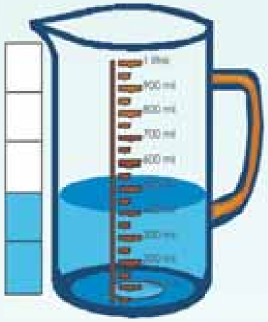
a. $\frac{1}{2}$ of a litre is ☐ ml



b. $\frac{3}{4}$ of a litre is ☐ ml



c. $\frac{9}{10}$ of a litre is ☐ ml



d. $\frac{2}{5}$ of a litre is ☐ ml

e. $\frac{2}{8}$ of a litre is ☐ ml

5. Fill in <, > or =

a. $\frac{1}{2}$ of a litre ☐ $\frac{2}{8}$ of a litre.

b. $\frac{3}{4}$ of a litre ☐ $\frac{1}{2}$ of a litre.

c. $\frac{2}{5}$ of a litre ☐ $\frac{9}{10}$ of a litre.

d. $\frac{2}{8}$ of a litre ☐ $\frac{3}{4}$ of a litre.

e. $\frac{2}{5}$ of 1 000 ml ☐ $\frac{1}{2}$ of 1 000 ml

f. $\frac{3}{4}$ of 1 000 ml ☐ $\frac{2}{5}$ of 1 000 ml

Fraction Dominoes

Play fraction dominoes.

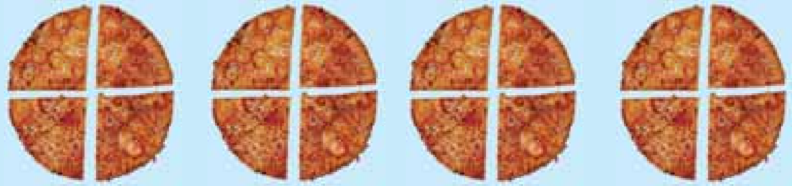
Sign:

Date:

Term 2

36 Grouping and sharing leading to fractions

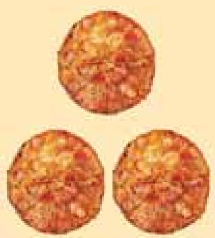
Look at the pictures below.
Each child got 1 slice of pizza.
How many children shared the pizza?
What fraction of a pizza did each child get?



1. Use the drawings to help you to solve the problems.

a. Each child must get one quarter of a pizza. How many children can get slices from 3 pizzas?

Pizzas

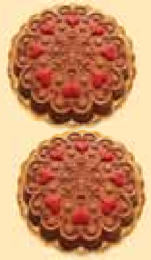


b. My mother made 5 milk tarts for a function. Each person should get $\frac{1}{6}$ of a tart. How many people will get a piece of tart?

Tarts

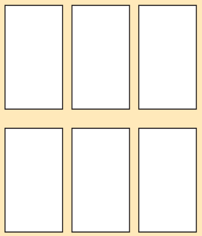
c. Two cakes are shared equally between eight learners. What fraction of a cake will each learner get?

Cakes



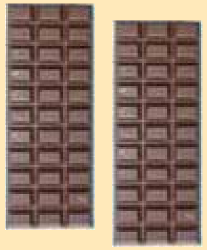
d. Divide 6 sheets of paper equally between 24 learners. What fraction of the paper will each learner get?

Sheets of paper



e. Look at the picture and write down your own word sum.

Chocolate



Fraction Dominoes

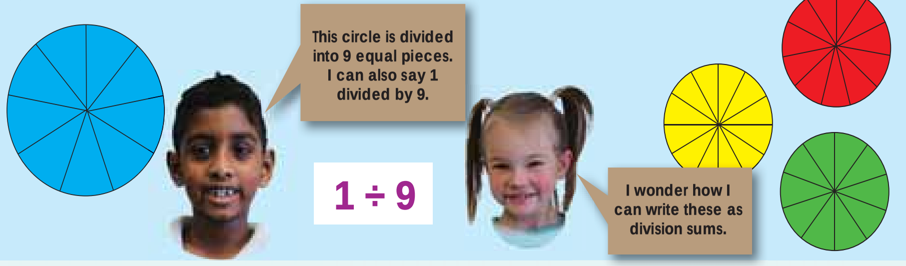
Play fraction dominoes.

Sign:

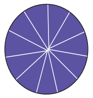
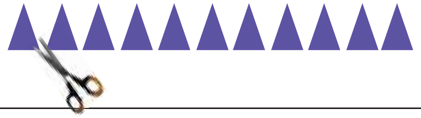
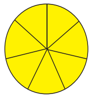
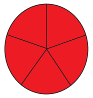
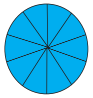
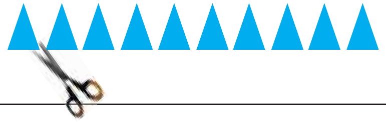
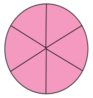
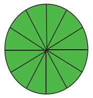
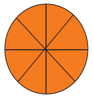
Date:

37 Fractions and division

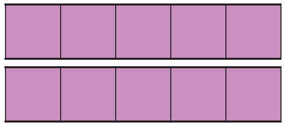
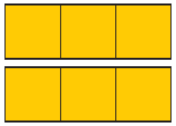
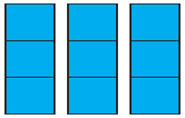
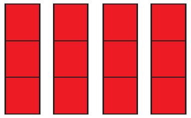
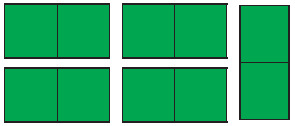
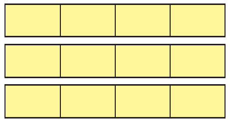
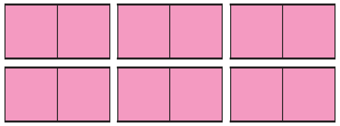
Quick recall: How fast can you answer the following?



1. Complete the table.

Fraction circles.		Fraction pieces. Make your own drawing.	Write a division sum.
	$\frac{1}{11}$		
	$\frac{1}{7}$		
	$\frac{1}{5}$		
	$\frac{1}{10}$		
	$\frac{1}{6}$		
	$\frac{1}{12}$		
	$\frac{1}{8}$		

2. Complete the table.

Fraction strips	Fraction	Division
	Fifths	$2 \div 10 = \frac{1}{5}$
		
		
		
		
		
		

Fraction hunt ...

Find in magazines or draw fractions for:

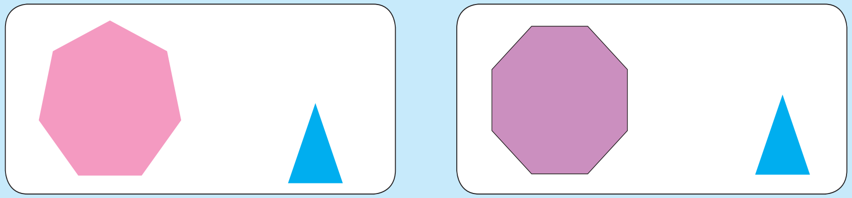
3 ÷ 9 **2 ÷ 10** **5 ÷ 15**

Sign:

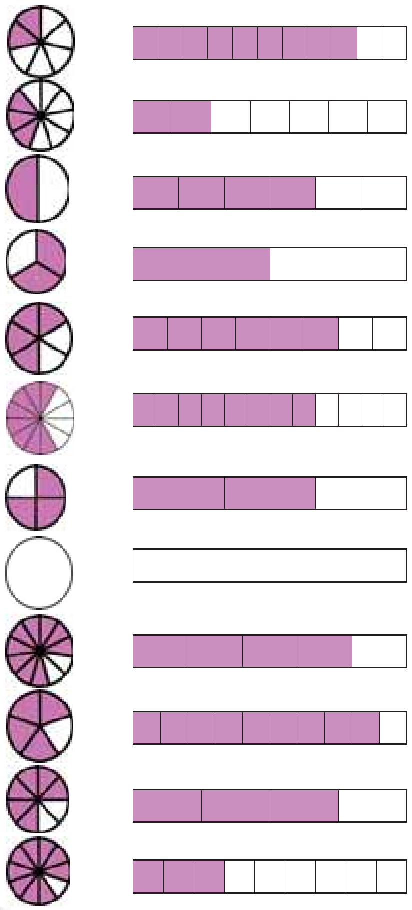
Date:

38 Fractions: halves to twelfths

How many triangles can you fit onto the shapes?



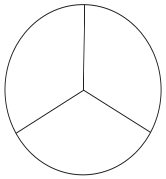
1. Match the fraction strip with the fraction circle on the left.



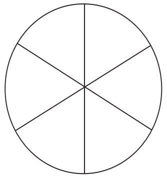
2. Find the fraction and colour in the following.

$\frac{2}{3}$ $\frac{4}{10}$ $\frac{2}{5}$ $\frac{2}{12}$ $\frac{6}{8}$ $\frac{3}{7}$ $\frac{4}{6}$

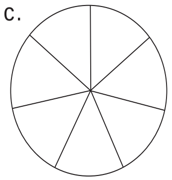
a.



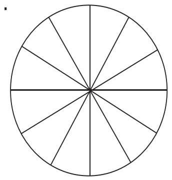
b.



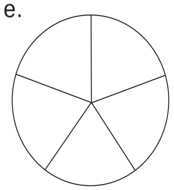
c.



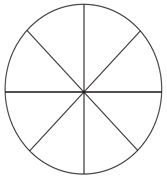
d.



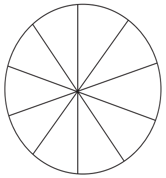
e.



f.



g.



3. Fill in <, > or =

a. $\frac{1}{2}$ □ $\frac{1}{12}$ b. $\frac{1}{7}$ □ $\frac{1}{9}$ c. $\frac{1}{11}$ □ $\frac{1}{12}$ d. $\frac{1}{3}$ □ $\frac{1}{9}$

e. $\frac{1}{10}$ □ $\frac{1}{5}$ f. $\frac{2}{5}$ □ $\frac{1}{10}$ g. $\frac{4}{8}$ □ $\frac{1}{2}$ h. $\frac{3}{12}$ □ $\frac{1}{4}$

i. $\frac{4}{12}$ □ $\frac{1}{3}$ j. $\frac{5}{12}$ □ $\frac{5}{11}$ k. $\frac{3}{9}$ □ $\frac{1}{3}$ l. $\frac{5}{10}$ □ $\frac{1}{2}$

m. $\frac{6}{12}$ □ $\frac{1}{2}$ n. $\frac{6}{11}$ □ $\frac{1}{6}$ o. $\frac{6}{9}$ □ $\frac{2}{3}$ p. $\frac{3}{4}$ □ $\frac{10}{12}$

4. Extend the following:

a. $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ □

b. $\frac{1}{12}$ $\frac{2}{12}$ $\frac{3}{12}$ □

c. $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ □

d. $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ □

e. $\frac{4}{9}$ $\frac{5}{9}$ $\frac{6}{9}$ □

f. $\frac{3}{7}$ $\frac{4}{7}$ $\frac{5}{7}$ □

g. $\frac{9}{10}$ $\frac{8}{10}$ $\frac{7}{10}$ □

h. $\frac{4}{5}$ $\frac{3}{5}$ $\frac{2}{5}$ □

Fraction Dominoes ...

Play fraction dominoes.

Sign:

Date:

39 Addition and subtraction of fractions with the same denominators

Adding and subtracting fractions

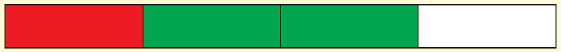
When we add or subtract fractions the denominators must be the same. Look at the example and explain what it means.

Example: $\frac{1}{4} + \frac{4}{8} = \square$

Think about the sum like this: We buy two pizzas on special from a Pizza restaurant. Each pizza is cut into 8 equal slices. There are three pieces of Tangy Russian pizza and four pieces of Hawaiian pizza left over. How many pieces of pizza are left altogether? What fraction of a full pizza is that?

1. Add the following fractions. Use the example to guide you.

Example:

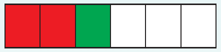


$\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

a.  $\square$

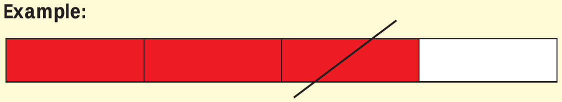
b.  $\square$

c.  $\square$

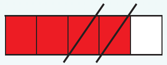
d.  $\square$

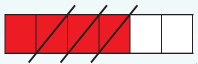
2. Subtract the following fractions. Use the example to guide you.

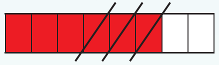
Example:

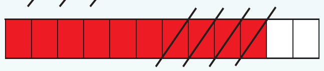


$\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$

a.  $\square$

b.  $\square$

c.  $\square$

d.  $\square$

3. Calculate:

a. $\frac{1}{4} + \frac{2}{4} = \square$

b. $\frac{7}{8} - \frac{1}{8} = \square$

c. $\frac{10}{12} - \frac{8}{12} = \square$

d. $\frac{5}{8} + \frac{2}{8} = \square$

e. $\frac{2}{4} - \frac{1}{4} = \square$

f. $\frac{7}{11} + \frac{3}{11} = \square$

4. Calculate:

a. $\frac{2}{4} + \square = \frac{3}{4}$

b. $\frac{4}{8} + \square = \frac{5}{8}$

c. $\frac{2}{3} + \square = \frac{3}{3}$

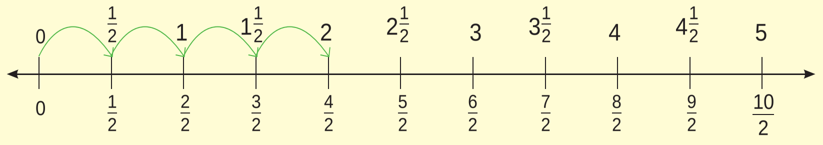
d. $\frac{3}{5} + \square = \frac{4}{5}$

e. $\frac{4}{6} - \square = \frac{2}{6}$

f. $\frac{10}{12} - \square = \frac{8}{12}$

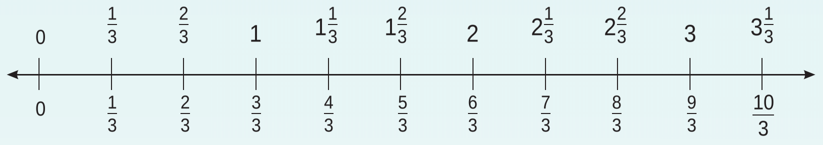
5. First count in fractions. Then make hoops on the number line to give the answer of the fraction number sentence.

Example:



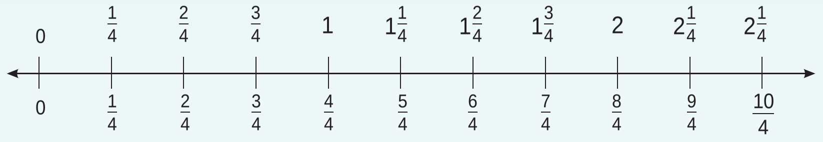
$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{4}{2}$ or 2

a.



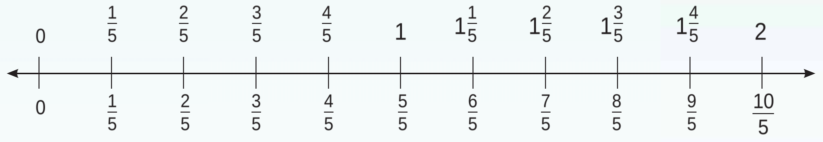
$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = \frac{5}{3}$ or $1\frac{2}{3}$

b.



$\frac{3}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{6}{4}$ or $1\frac{2}{4}$

c.



$\frac{4}{2} + \frac{2}{5} + \frac{2}{5} = \frac{8}{5}$ or $1\frac{3}{5}$

Birthday pizza

At my birthday party John at $\frac{1}{8}$ of the pizza, Tshepo $\frac{2}{8}$, Zaheeda and Lee $\frac{1}{8}$, I had $\frac{1}{8}$. What fraction of the pizza was left?

Sign:

Date:

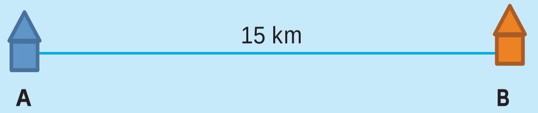
40 Measuring instruments

What is the difference between length and distance?

Distance is how far one travels from point A to point B.

Length is the distance measured between point A and B.

Use the picture to explain the difference between length and distance.



1. What will you measure with the following measuring instruments?

a.

i. ______________________________

ii. ______________________________

iii. ______________________________

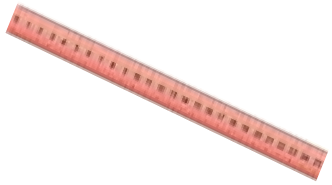
b.

i. ______________________________

ii. ______________________________

iii. ______________________________

c.



i. ______________________________

ii. ______________________________

iii. ______________________________

d.

i. ______________________________

ii. ______________________________

iii. ______________________________

e.

i. ______________________________

ii. ______________________________

iii. ______________________________

f.

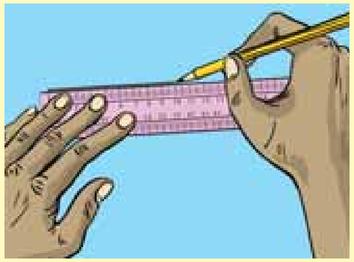
i. ______________________________

ii. ______________________________

iii. ______________________________

2. Draw the following lines on a piece of paper using a ruler.

For example: 10 cm



a. 5 cm

b. 14 cm

c. 19 cm

d. 21 cm

e. 45 cm

f. 185 cm

g. 270 cm

How long?

a. We travelled from Johannesburg to Polokwane. What did my father use to measure the distance? ______________________________

b. The length of a desk ____________

c. The length of a soccer field ____________

d. The height of a window ____________

Sign:

Date:

41a Converting between lengths

Look at the distances and match it with the pictures.

$\frac{1}{2}$ km

$\frac{1}{2}$ cm

$\frac{1}{2}$ m

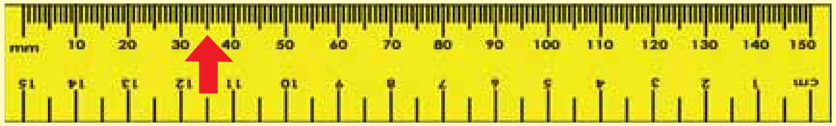

Length of a table


Distance travelled on a road


Width of a book

1. Write the following in cm and mm and then as cm only.

Example:
Show this on a ruler: 35 mm = 3 cm 5mm or 3$\frac{1}{2}$cm



a. 25 cm

b. 30 cm

2. Write the following in cm and mm and then as mm only.

Example:
Show this on a ruler: 4$\frac{1}{2}$cm = 4 cm and 5 mm = 45 mm

a. 5 cm

b. 4 cm

3. Write the following in m and cm.

Example:
Show this on a tape measure:
126 cm = 1 m and 26 cm
1 m and 75 cm = 175 cm

a. 189 cm

b. 594 cm

4. Write the following in cm only.

Example: Show this on a tape measure:
1 m and 65 cm = 165 cm

a. 1 m and 27 cm

b. 4 m and 39 cm

5. Write the following in cm only.

Example: Show this on a tape measure:
2 m and 500 cm = 2 500 cm

a. 3 m and 700 cm

b. 2 cm and 600 cm

6. Write the following in m and cm.

Example: Show this on a tape measure:
4 500 cm = 4 m and 500 cm

a. 4 250 cm

b. 7 950 cm

7. Write the following in m.

Example: Show this on an odometer:
4$\frac{1}{2}$km = 4 500 m

a. 6$\frac{1}{2}$ km

b. 5$\frac{1}{2}$ km

8. Write the following as km.

Example: Show this on a odometer: 7 500 m = 7$\frac{1}{2}$ km

a. 4 100 m

b. 9 300 m

9. My family travelled 2,5 km to the event. Our friends travelled 2 250 m to the event. Who travelled the furthest?

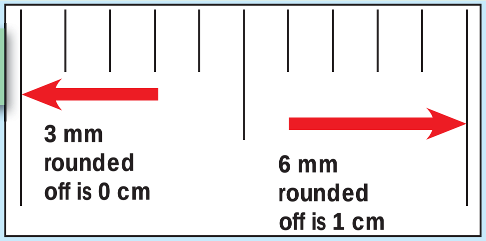
Sign:
Date:

continued ☛

Term 2

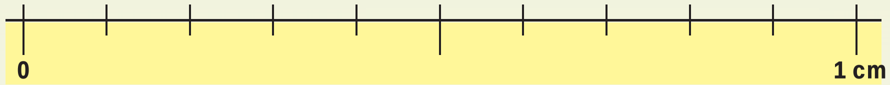
41b Converting between lengths

What does each interval represent?

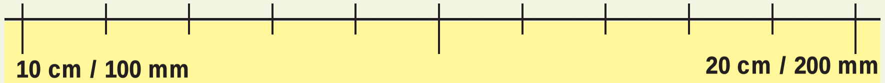


This represents 1 mm or 1 tenth of a cm

10. Round off to the nearest cm. Draw the arrows on the rulers.

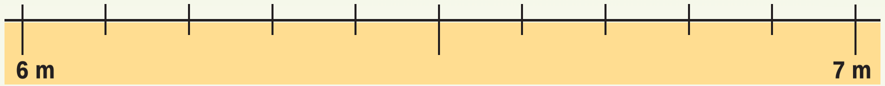


a. 4 mm rounded off is ____ cm.   8 mm rounded off is ______ cm.



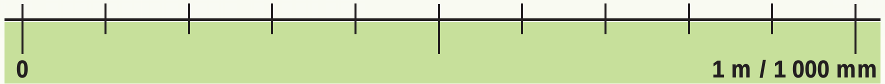
b. 187 mm rounded off is ____ cm.   184 mm rounded off is ______ cm.

11. Round off to the nearest m. Draw the arrows on the rulers.

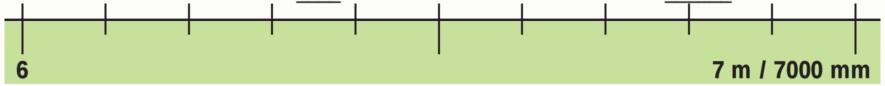


a. 650 cm rounded off is ____ m.   620 cm rounded off is ______m.

12. Round off to the nearest m. Draw the arrows on the rulers.



a. 400 mm rounded off is ____ m.   800 mm rounded off is ______ m.



a. 6 300 mm rounded off is ____ m.   6 900 rounded off is ______m.

13. Round off to the nearest km.

Example: Round off 1 km and 750 m using your knowledge of rounding off to a thousand.

a. 5 km and 320 m	b. 4 km and 250 m	c. 7 km and 510 m

14. Solve the following problems. Make use of drawings to show your answers.

a. I first bought 6 400 mm string and then 2 900 mm more. How much string did I buy? Write down your answer in mm and cm and then in m.	b. I bought 7 m of ribbon. I used $2\frac{1}{2}$ m. How much ribbon do I have left? Write your answer in m.
c. My father's desk is 4 300 mm long and mine measures 5 200 mm. How much longer is my desk than my father's desk? Write down your answer in cm and mm and then in m.	d. I bought 60 m of wool. I used $17\frac{1}{2}$ m. How much wool do I have left? Write your answer in m.
e. Sandra and Sipho travelled 1 250 km$\frac{1}{2}$. Sandra travelled 759 km. How far did Sipho travel? Write your answer in km.	f. How many kilometres before I have to take the car for the service? Use this question to create your own word problem.

Travel steps

I travelled 2 500 m. How would will you round this off to the nearest km? Show all your steps.

Sign:

Date:

42a Metres and fractions

What is a metre?

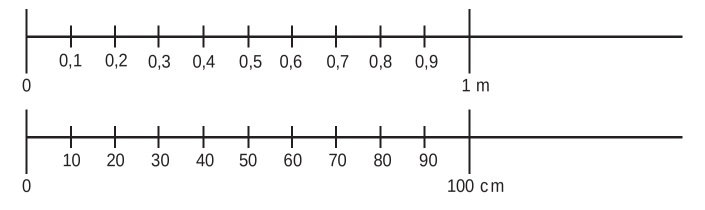
Find out what a metre is.

How many 30 cm rulers do you need to make one metre?

About how many steps will make a metre?

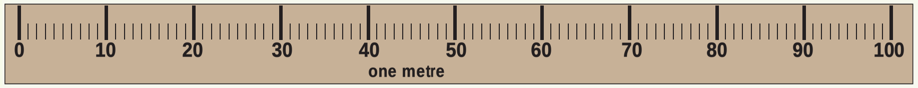
How many cans will make one metre?

1. **Extend the number lines below. What do you notice?**



2. **Complete the table below by estimating and measuring.**

	Estimate	Measure
Length of your table		
Length of the classroom		
Distance from one side of the road to the other side of the road		



3. **Convert the following:**

a. 30 cm = ☐ m

b. 10 cm = ☐ m

c. 55 cm = ☐ m

d. 1 m = ☐ cm

e. 200 mm = ☐ m

f. 1 250 mm = ☐ m

4. **What unit will you use when measuring each of the following?**

a. Length of a door ☐

b. Width of a book ☐

c. Length of a rugby field ☐

d. Pencil thickness ☐

e. Length of a car ☐

f. Length of a shoe ☐

Sign:

Date:

continued ☛

42b Metres and fractions continued

5. What distance is it from:

a. the teacher to you? ☐

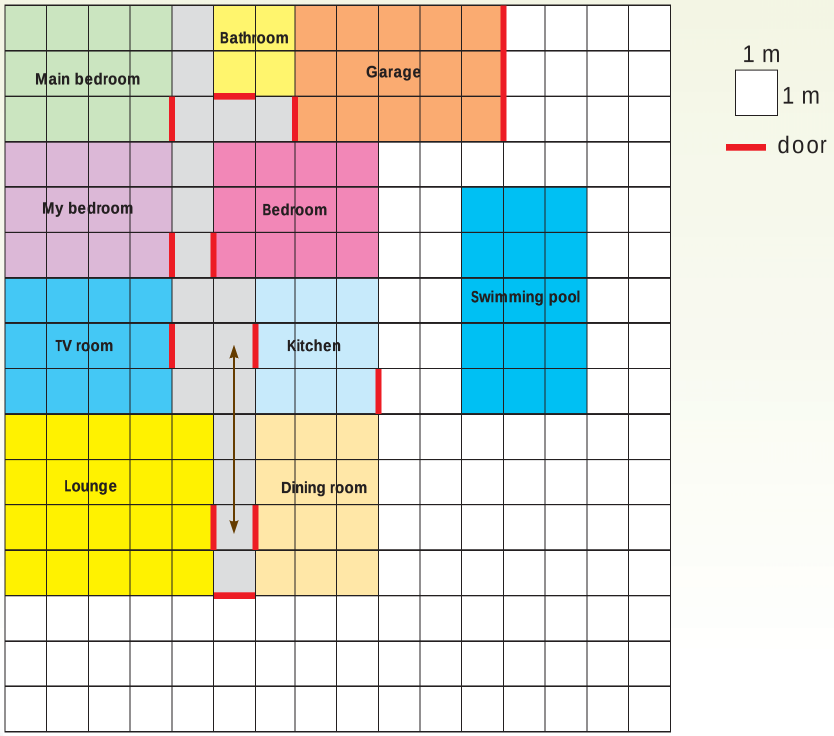
b. your bed to the bathroom? ☐

c. your classroom to the principal's office? ☐

d. of your classroom to the bathroom? ☐

e. from your bag to the top of your table? ☐

6. Look at the floor plan (top view) of this house and complete the table on the next page.

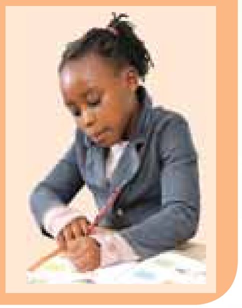


How far is:	m	cm
a. The **kitchen door** from the **dining room door**?	4	400
b. My **bedroom door** from the **garage door**?		
c. The **dining room** from the **bathroom**?		
d. My **parents bedroom door** from **my bedroom door**?		
e. The **pool** from the front **door**?		
f. My **bedroom door** from the **TV room door**?		
g. The **pool** from the TV **room**?		
h. The **dining room** door from the **kitchen door**?		
i. The **front door** from **my bedroom door**?		
j. The **bathroom door** from the **garage door**?		

It is one metre ...

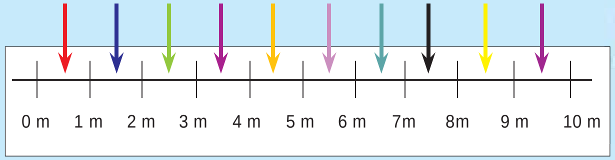
How many things can you find that are 1 metre long?

Write down, as many things as you can.

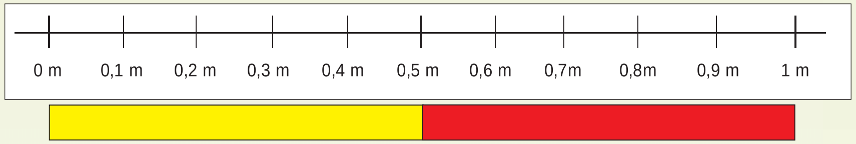


43 Fractions through measurement

What numbers will you write where the arrows point?



1. Use the 1 metre number line to answer the questions below.



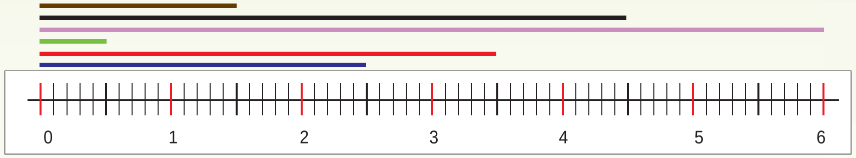
a. Which number comes after 0,4 m? ☐ 0,9 m ? ☐

b. Which number comes before 0,7 m? ☐ 0,1 m ? ☐

c. What is one half of a metre? ☐ m

d. How many intervals are there from 0 to 1 m? ☐

2. Use the 6 metre tape to say how long each line is.



a. blue line = ☐

b. red line = ☐

c. green line = ☐

d. purple line = ☐

e. black line = ☐

f. brown line = ☐

3. What number will come next?

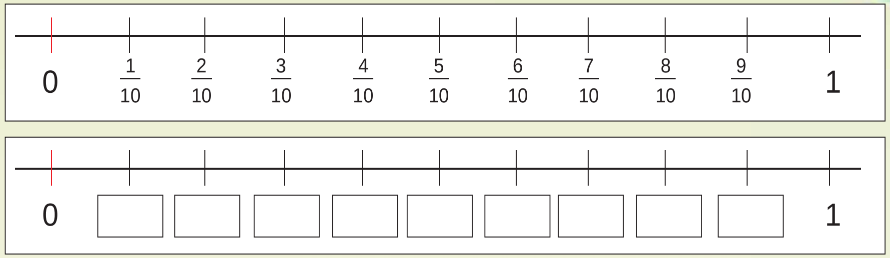
a. 3,5 m; 4 m; 4,5 m; ☐

b. 9 m; 9,5 m; 10 m; ☐

c. 18,5 m; 18; 17,5 m; ☐

d. 20,5; 20; 19,5; ☐

4. Write the fraction in decimal form.



a. three tenths ☐

b. six tenths ☐

c. two tenths ☐

d. four tenths ☐

e. nine tenths ☐

f. five tenths ☐

5. Fill in <, > or =

a. two tenths ☐ three tenths

b. 0,3 ☐ 5 tenths

c. nine tenths ☐ 0

d. zero ☐ 0,4

e. 7 tenths ☐ 7 tens

f. one ☐ one tenth

6. I need to walk 1 km to school. I walked 0,4 km of the km and then met my friend. What part of the kilometre did we walk together?

Continue on an extra sheet of paper.

Fraction Dominoes

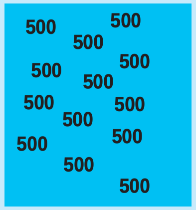
Play fraction dominoes.

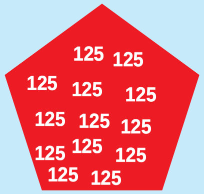
Sign:

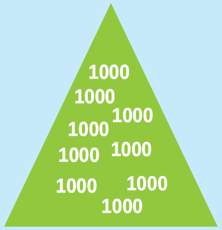
Date:

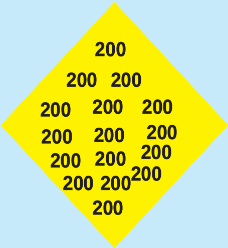
44a Multiplication: 2-digits by 3-digits and 4-digits by 1-digit

Give the total of the numbers in each shape. Use multiplication.









1. Complete the table below.

Number	x 100	x 200	x 300	x 400	x 5 00	x 600	x 700	x 800	x 900
15									
30									
50									
70									
25									

2. These are multiples of (extend the pattern).

a. **500:** 2 500, 3 000, 3 500, 4 000, ☐ ☐ ☐ ☐ ☐

b. **1 000:** 10 000, 11 000, 12 000, 13 000, ☐ ☐ ☐ ☐ ☐

c. **2 000:** 4 000, 6 000, 8 000, 10 000, ☐ ☐ ☐ ☐ ☐

d. **250:** 2 500, 2 750, 3 000, 3 250, ☐ ☐ ☐ ☐ ☐

e. **1 500:** 6 000, 7 500, 9 000, 10 500, ☐ ☐ ☐ ☐ ☐

3. Use both methods to solve the multiplication sums.

Examples:

Example 1:

56 x 138

= (50 + 6) x (100 + 30 + 8)

= (50 x 100) + (50 x 30) + (50 x 8) + (6 x 100) + (6 x 30) + (6 x 8)

= 5 000 + 1 500 + 400 + 600 + 180 + 48

= 5 000 + 1 000 + 500 + 400 + 600 + 100 + 80 + 40 + 8

= 6 000 + 1 600 + 120 + 8

= 6 000 + 1 000 + 600 + 100 + 20 + 8

= 7 000 + 700 + 20 + 8

= 7 728

Example 2:

```
      1 3 8
x       5 6
        4 8      (6 x 8)
      1 8 0     (6 x 30)
      6 0 0    (6 x 100)
      4 0 0     (50 x 8)
    1 5 0 0    (50 x 30)
+   5 0 0 0   (50 x 100)
    7 7 2 8
```

a. 168 x 34 =

b. 219 x 49 =

Continue on an extra sheet of paper.

Sign:

Date:

continued ☛

44b Multiplication: 2-digits by 3-digits and 4-digits by 1-digit continued

Term 2

c. 234 x 58 =

d. 312 x 65 =

Continue on an extra sheet of paper.

e. 306 x 73 =

Continue on an extra sheet of paper.

4. Solve the problems.

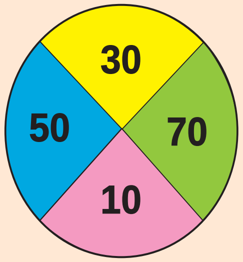
a. Every person in our school of 175 ate one apple each for 25 days. How many apples did we eat?

Continue on an extra sheet of paper.

b. My brother and four friends did extra work for 16 hours. They got R122 per hour. How much did they get in total?

Continue on an extra sheet of paper.

How fast are you?



What to do:

- The aim is to see how fast you can fill in the answers in the white rectangles provided.
- Multiply each number on the circle by the same colour rectangles to get your answer.

30		60	
40		50	
70		30	
70		20	
20		20	
10		80	
10		90	
60		50	
20		60	
90		60	

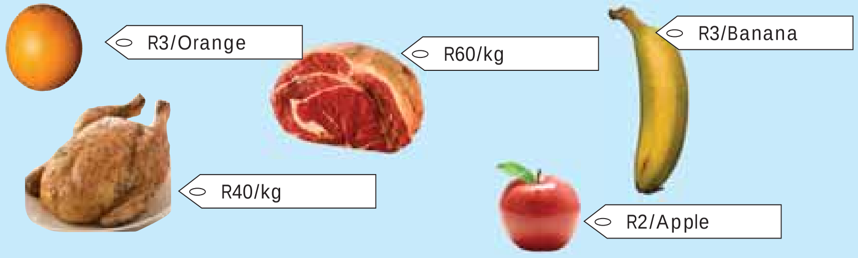
Sign:

Date:

45 Rate

Term 2

Do you still remember the symbol for rate? Maybe this picture will help you.

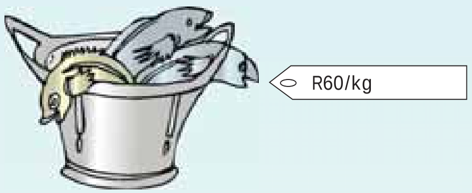


100 km/h 	**50 km/h** 
120 km/h 	**80 km/h** 

1. How far did each car travel? Complete the table.

	1 hour	2 hours	3 hours	4 hours
Pink car				
Purple car				
Blue car				
Green car				

2. Complete the following:



How much will you pay for:

a. 1 kg

b. 2 kg

c. 3 kg

d. 4 kg

e. 5 kg

f. 6 kg

g. 7 kg

h. 8 kg

i. 9 kg

j. 10 kg

How much will you pay for:

a. 1ℓ

b. 2 ℓ

c. 3 ℓ

d. 4 ℓ

e. 5 ℓ

f. 6 ℓ

g. 7 ℓ

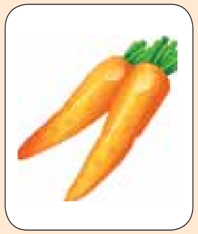
h. 8 ℓ

i. 9 ℓ

j. 10 ℓ

What is the rate?

Go to your nearest shop and find out what the rate is for:



Sign:

Date:

Term 2

46 Multiples and factors

A paper-collecting company visits Linda's neighbourhood every four days. Unfortunately, she missed it today. When can Linda expect the paper company to visit her neighbourhood again?

The paper company will visit on days 4, 8, 12, 16, 20, 24, and 28 during September 2014.

What can you tell about these numbers, if the first day is on the:

- 1st of September
- 2nd of September
- 3rd of September
- 4th of September

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

Are all these numbers multiples of 4? Why?

1. Complete the tables.

a.

	Find the multiples of the whole number 3							
Multiplication:	1 x 3	2 x 3	3 x 3					
Multiples of 3:	3	6	9					
Solution:	The multiples of 3 are: ______							

b.

	Find the multiples of the whole number 8							
Multiplication:								
Multiples of 8:								
Solution:	The multiples of 8 are: ______							

c.

	Find the multiples of the whole number 10							
Multiplication:								
Multiples of 10:								
Solution:	The multiples of 10 are: ______							

2. What are the first ten multiples of:

a. 2 ______

b. 4 ______

c. 6 ______

d. 7 ______

e. 9 ______

f. 10 ______

3. Answer the following questions on multiples.

a. Write down the multiples of three from 474 to 483.

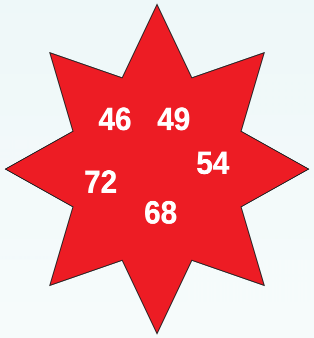
______

b. Write down the multiples of 5 between 718 and 733.

______

c. Which of the following numbers in the shape are multiples of 3?

______



Multiples ...

How many multiples of ____ are there between 0 and 99?

1	2	3	4	5	6	7	8	9	10

What did you notice?

Sign:

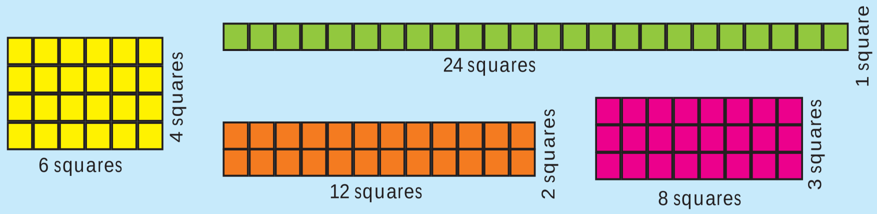
Date:

47 Factors

Term 2

You have to paint an area of 24 squares . It could possibly look like this:

How many other dimensions can you get?



So I can get: 1 x 24 squares, 2 x 12 squares, 3 x 8 squares and 4 x 6 squares.

1. Find the factors of:

Example 1: Find the factors of 12.

Counting #	Division	Factor pair
1	12 ÷ 1 = 12	1 x 12
2	12 ÷ 2 = 6	2 x 6
3	12 ÷ 3 = 4	3 x 4
4	12 ÷ 4 = 3	4 x 3

Starting with 1, divide each counting number into the whole number.

If the numbers divide exactly (no remainder), then you have found a pair of factors.

List the counting number and the quotient of your division as a pair of factors.

Keep dividing until a factor repeats.

List all factors separated by commas.

Solution: The factors of 12 are 1, 2, 3, 4, 6 and 12.

Example 2: Find the factors of 20.

Counting #	Division	Factor pair
1	20 ÷ 1 = 12	1 x 20
2	20 ÷ 2 = 10	2 x 10
4	20 ÷ 4 = 5	4 x 5
5	20 ÷ 5 = 4	5 x 4

Solution: The factors of 20 are 1, 2, 4, 5, 10 and 20.

Example 3: Find the factors of 49.

Counting #	Division	Factor pair
1	49 ÷ 1 = 49	1 x 49
2	49 ÷ 7 = 7	7 x 7

Solution: The factors of 49 are 1, 7 and 49.

a. 16	b. 25	c. 36
d. 42	e. 50	f. 63
g. 66	h. 72	i. 75
j. 81	k. 90	l. 100

2. Write down

a. all the factors of 54:

____

b. all the factors of 24:

____

Factors of ...

1, 5, 13, and 65 are the factors of what number?

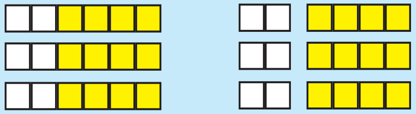
Sign:

Date:

48 Distributive property of number

Explain the diagrams.

3 x (2 + 4) = (3 x 2) + (3 x 4)



1. Make the number sentence equal using the above example to guide you.

a. 2 x (8 + 3) =

b. 7 x (4 + 3) =

2. Calculate the following.

Example 1:

3 x (2 + 4)
= **6** + **12**
= 18

Example 2:

$$\begin{array}{c|c} \times & 3 \\ 2 & \boxed{6} \\ 4 & \boxed{12} \end{array}$$

= **6** + **12**
= 18

a. 4 x (8 + 2) =

b. 2 x (2 + 8) =

c. 9 x (7 + 4) =

3. Calculate the following.

Example 1:

30 x (2 + 4)
= **60** + **120**
= 180

Example 2:

$$\begin{array}{c|c} \times & 30 \\ 2 & \boxed{60} \\ 4 & \boxed{120} \end{array}$$

= **60** + **120**
= 180

a. 70 x (6 + 5) =

b. 50 x (8 + 2) =

c. 60 x (2 + 3) =

4. Calculate the following.

Example 1:

300 x (2 + 4)
= **600** + **120**
= 720

Example 2:

$$\begin{array}{c|c} \times & 300 \\ 2 & \boxed{600} \\ 4 & \boxed{120} \end{array}$$

= **600** + **120**
= 720

a. 50 x (70 + 5) =

b. 30 x (90 + 8) =

c. 90 x (20 + 8) =

Field trip

40 children are going on a field trip. Each of them has to pay R27. How much money should the teacher collect?

Sign:

Date:

49 Multiplication: 3-digits by 2-digits

Look at the examples and discuss it.

Distributive method:

(expanded notation)

547 x 45

= (500 + 40 + 7) x (40 + 5)

= 20 000 + 2 500 + 1 600 + 200 + 280 + 35

= 20 000 + 2 000 + 1 000 + 500 + 600 + 200 + 200 + 80 + 30 + 5

= 20 000 + 3 000 + 1 500 + 110 + 5

= 20 000 + 3 000 + 1 000 + 500 + 100 + 10 + 5

= 20 000 + 4 000 + 600 + 10 + 5

= 24 615

Table method:

x	40	+ 5
500	20 000	2 500
+ 40	1 600	200
+ 7	280	35
	24 615	

1. Multiply the following using both methods.

a. 578 x 25

b. 967 x 29

2. Multiply by rounding off the second number.

Example 2:

Using rounding off to estimate and judge reasonableness of the answer

547 x 50

≈ (500 + 40 + 7) x 50

≈ 25 000 + 2 000 + 350

≈ 20 000 + 5 000 + 2 000 + 300 + 50

≈ 20 000 + 7 000 + 300 + 50

≈ 27 350

a. 751 x 42

b. 882 x 23

c. 175 x 34

d. 967 x 36

Shoe sale

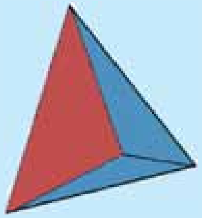
The shop sold 64 pairs of shoes at R225 per pair today. How much money did the shop collect?

Sign:

Date:

50 Flat or curved surfaces

What is a face? What is a surface?



A face is any of the individual surfaces of a 3-D object.

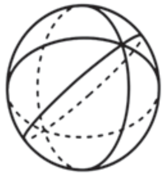
A face is the surface between a number of edges.

A triangular pyramid has 4 faces. There is one face you cannot see.

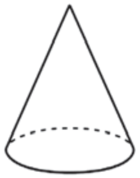
This 3-D object has flat surfaces.

1. Name and describe each of these objects according to their surfaces.

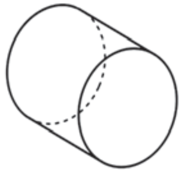
a.



b.

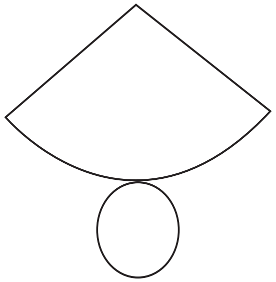


c.

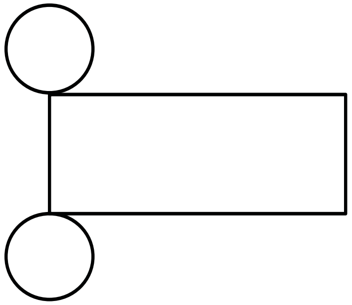


2. What 3-D objects will these flat patterns (called “nets”) make?

a.

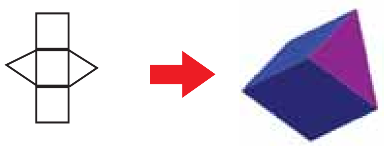


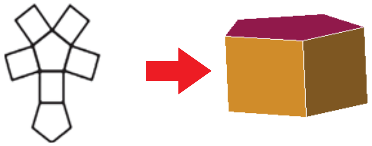
b.

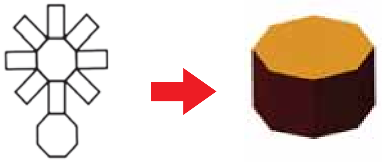


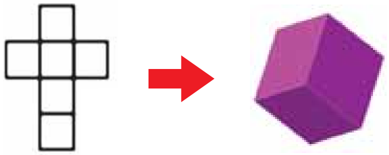
3. If you combine a cylinder and cone, what type of surface will you have?

4. Name and describe the surfaces of the following prisms.









5. Describe the shape of the post box.

House designs

What prisms are mostly used in the house designs in your area?

Sign:

Date:

51 Rectangular prisms and cubes

Look at the picture. Discuss it. Use words such as cubes and rectangular prisms.

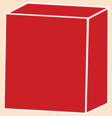
1. **Write the number of objects you see in the picture next to the word.**

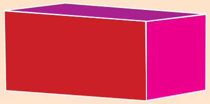
Rectangular prisms	☐	Cubes	☐
Cylinders	☐	Spheres	☐

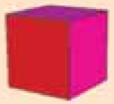
2. **Draw the following on the picture:**
   a. 2 cubes
   b. 2 rectangular prisms
   c. 2 spheres
   d. 2 cylinders

3. **Circle the following:**
   a. Prism (s) in blue
   b. Pyramid (s) in orange

4. **Say whether each 3-D object is a cube or a rectangular prism.**







5. **What is the difference between a cube and a rectangular prism? First draw the net of each – this will help you to describe it.**

Cube	Rectangular prism

Real life ...

On a poster present the following:

Five everyday life objects that are **rectangular** prisms.

One everyday life object of each:
- Hexagonal prism
- Pentagonal prism

Five everyday life objects that are **cubes**.

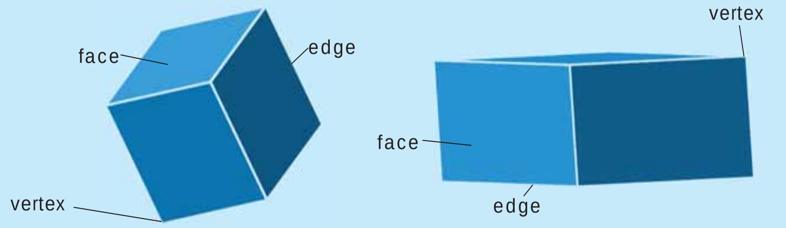
Sign:

Date:

52 Faces

Term 2

Can we see all the faces of the objects?

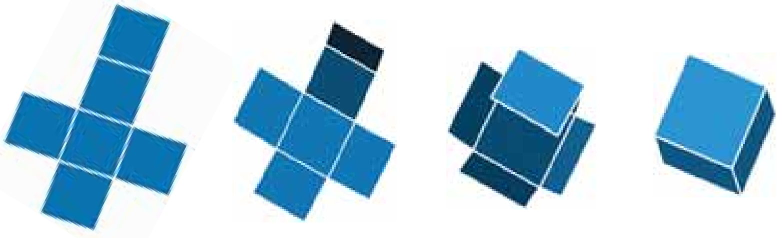


1. Use Cut-out 6. Fold the nets (patterns) to make a cube and a rectangular prism. Name the shape of each face.

Prism	Shapes of the faces	Number of faces
a. Triangular prism		
b. Rectangular prism		
c. Cube		
d. Pentagonal prism		
e. Hexagonal prism		

2. Name the object. Name the shape and number of the faces.

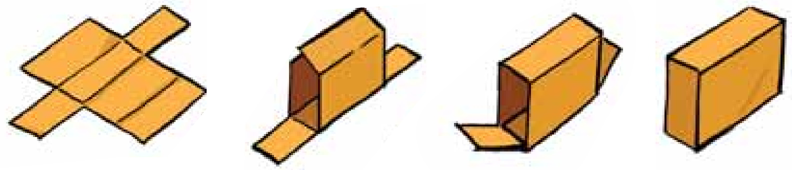
a.



Name of object: ______ Shape of faces: ______

Number of faces: ______

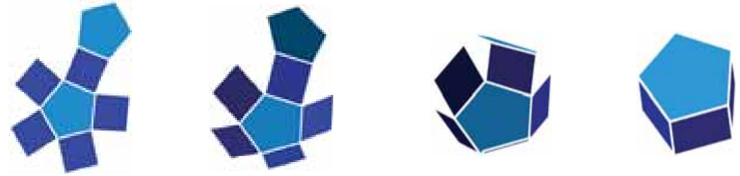
b.



Name of object: ______ Shape of faces: ______

Number of faces: ______

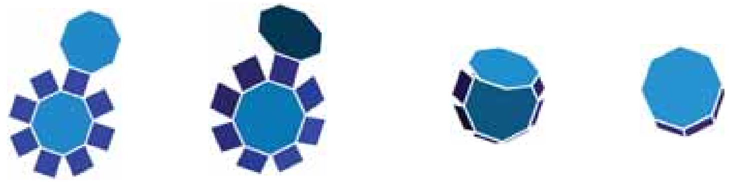
c.



Name of object: ______ Shape of faces: ______

Number of faces: ______

d.



Name of object: ______ Shape of faces: ______

Number of faces: ______

Beautiful objects

How many faces do these objects have?

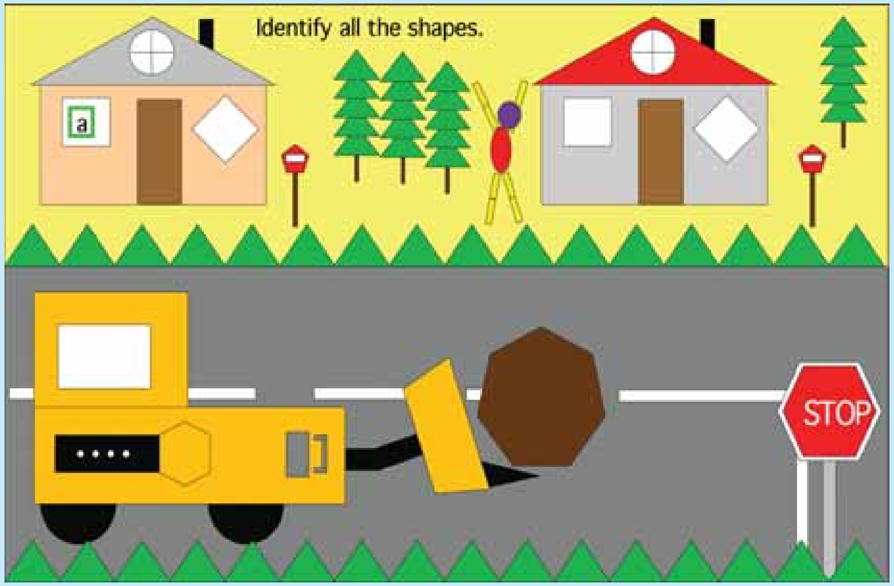
Sign:

Date:

Term 2

53 Polygons and circles

Identify all the shapes.

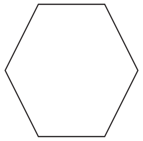


1. **Look at the picture. Write the alphabet letter of the shape on the picture (choose only one shape of each). Complete the table.**

Shape	Number of sides	Length of sides
a. Square		
b. Oval		
c. Octagon		
d. Circle		
e. Triangle		
f. Heptagon		
g. Hexagon		
h. Rectangle		

2. **Complete the following:**

a.

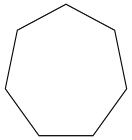


Name: ☐

Number of sides: ☐

Length of sides: ☐

b.

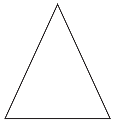


Name: ☐

Number of sides: ☐

Length of sides: ☐

c.



Name: ☐

Number of sides: ☐

Length of sides: ☐

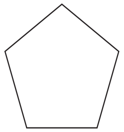
d.

Name: ☐

Number of sides: ☐

Length of sides: ☐

e.

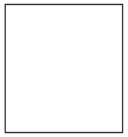


Name: ☐

Number of sides: ☐

Length of sides: ☐

f.



Name: ☐

Number of sides: ☐

Length of sides: ☐

3. **Complete the following:**

Draw a triangle with sides of 7 cm each.	Draw a hexagon with sides of 3 cm each.

Shape an animal

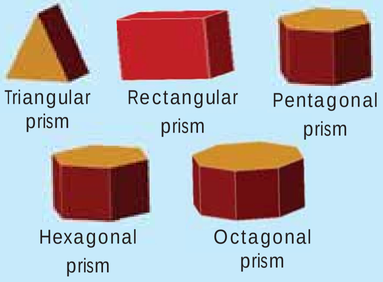
Create your own picture using each of the shapes at least once: triangle, square, rectangle, pentagon, hexagon, heptagon and circle.

Sign:

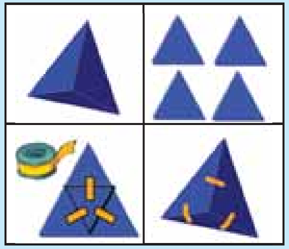
Date:

54 Making 3-D objects

Make one of the following 3D objects using your own cut out polygons.



Example:



1. **Which pyramids will you need as well if you want to create ‘huts’ or ‘houses’ from the above prisms?**

Triangular prism ________________________

Rectangular prism ________________________

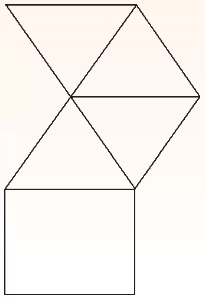
Pentagonal prism ________________________

Hexagonal prism ________________________

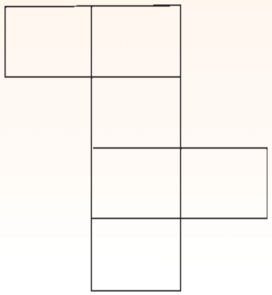
Octagonal prism ________________________

2. **Trace, enlarge and use the following nets to make 3-D objects and answer the questions on the top of the next page.**

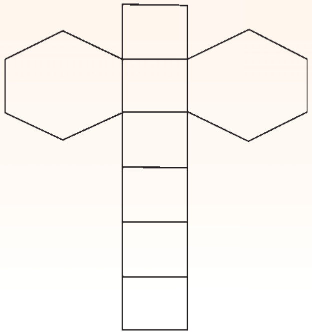
a.



b.



c.



a. Name the 3-D object	a. Name the 3-D object	a. Name the 3-D object
b. Describe the faces	b. Describe the faces	b. Describe the faces
c. Describe the surface	c. Describe the surface	c. Describe the surface

3. **Name three other objects you can design using these 3-D objects.**

4. **Revise: what is the difference between a 2-D shape and 3-D object?**

Create

Create your own net for a pentagonal prism gift box.
Cut, make and decorate it.

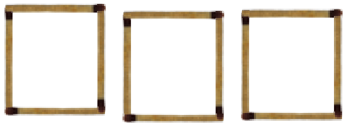
Sign:

Date:

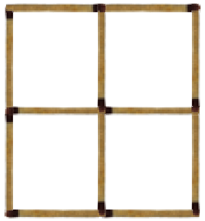
55 Geometric patterns

Try this activity just for fun.

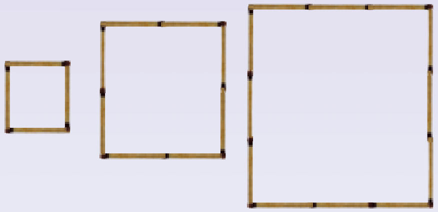
If you build three squares like this, it takes 12 matches.



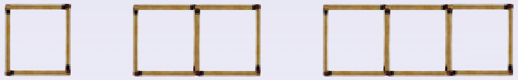
These 12 matches can then be arranged in four squares that form one square.



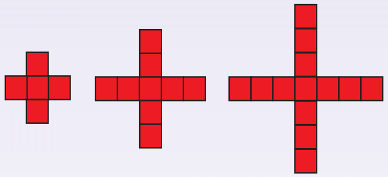
1. **Answer the questions.**
   a. If this pattern keeps its form, but becomes larger at each stage. What will the next pattern look like?



   b. If a shape or part of a shape is added to each stage. What will the next pattern look like?

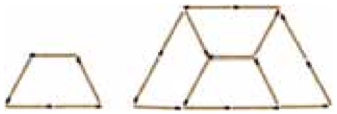


   c. Four squares are added to each stage. What will the next pattern look like?

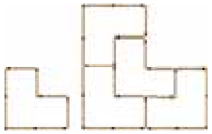


2. **Draw the next pattern.**

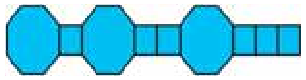
a.



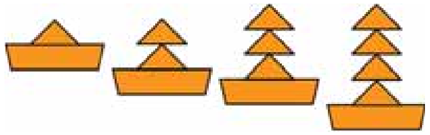
b.



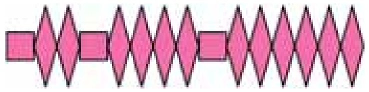
c.



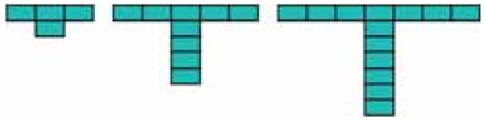
d.



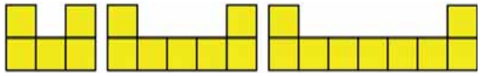
e.



f.

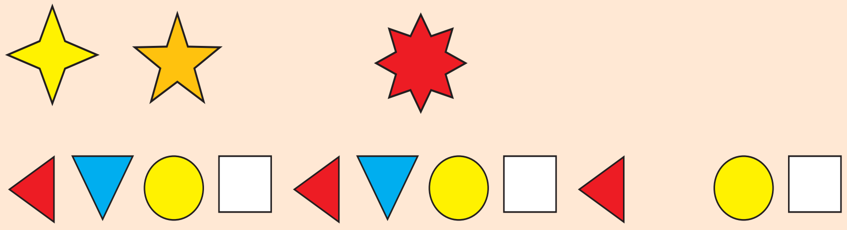


g.



Create

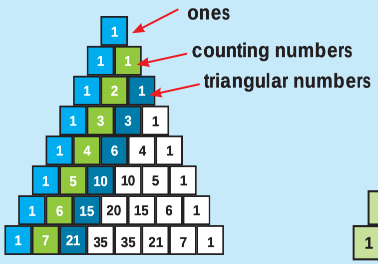
Draw the missing shape in the pattern.

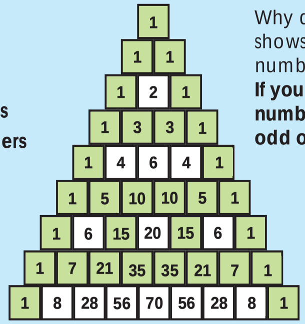


56 Investigate Patterns

Pascal's triangle

How many patterns can you find?



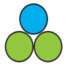
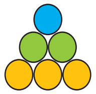
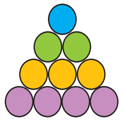
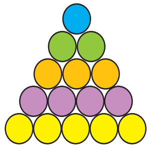


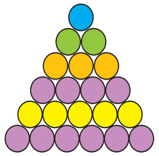
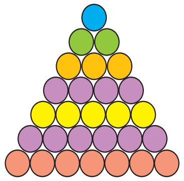
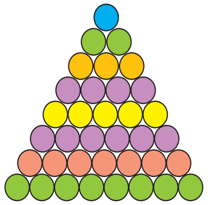
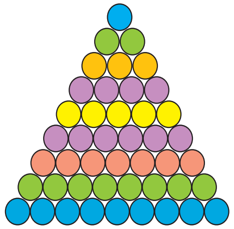
Why do we say the pattern shows odd and even numbers?

If you add any two odd numbers, will it give you an odd or even answer?

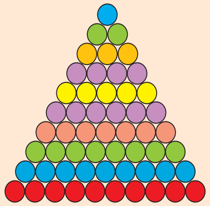
We are going to explore/investigate the triangular numbers in question 1.

1. How many circles will the tenth pattern have? Label each pattern.

	First pattern	1 = 1
	Second pattern	1 + 2 = 3
		1 + 2 + 3 = 6
		______________ = ______
		______________ = ______

		______________ = ______
		______________ = ______
		______________ = ______
		______________ = ______

Complete and describe the pattern.



Red beads	= 10
Blue beads	= 9 + 1 = 10
Green beads	= ________
Orange beads	= 7 + 3 =
Purple beads	= 4 + 6 = 10
Yellow beads	= 5

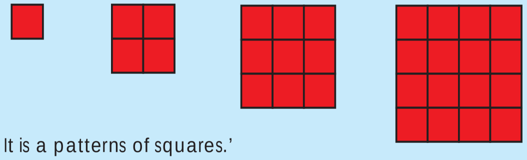
10 + 10 + 10 + 10 + 5 = __________

Sign:

Date:

57 Extend, describe and create patterns

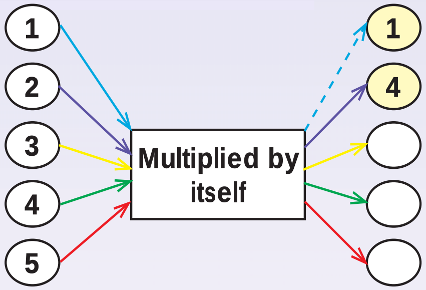
Describing the pattern to a friend. The sentence below might help you.

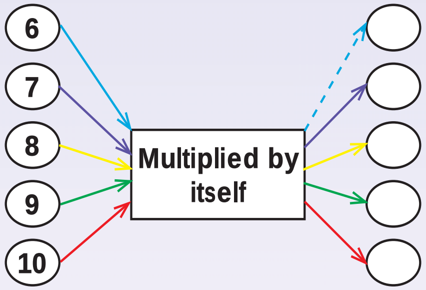


It is a patterns of squares.'
Each square is bigger than the one before.'

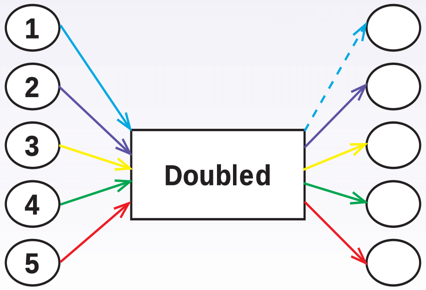
Describe how they made the pattern or answer the question, 'How did you get from one stage to the next?'
I added one more match to each side of each square.'
Each square has one more match than the square to the left of it.'

1. Complete the flow diagram based on the pattern above.

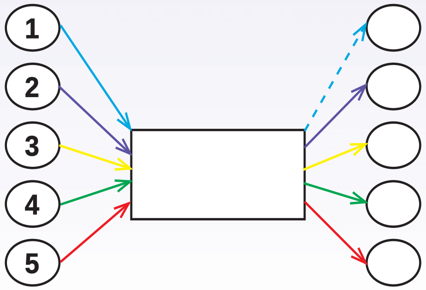




2. Draw a growing pattern for:

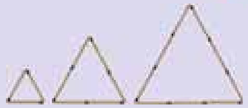


3. Create and draw your own pattern using the flow diagram below.



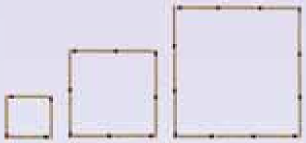
4. Extend the pattern and complete the table.

a. Name of pattern: triangular pattern.

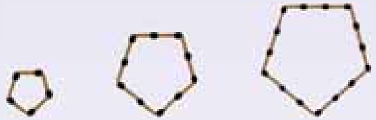


Triangle pattern number	1	2	3	4	5	6	7	8	9	10
Number of matches										

b. Name of pattern: ______________________

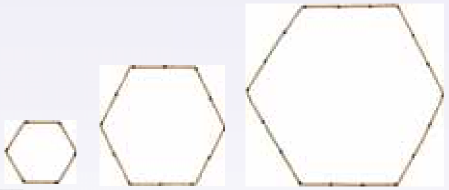


Square pattern number	1	2	3	4	5	6	7	8	9	10
Number of matches										



c. Name of pattern: ______________________

Pentagon pattern number	1	2	3	4	5	6	7	8	9	10
Number of matches										



d. Name of pattern: ______________________

Hexagon pattern number	1	2	3	4	5	6	7	8	9	10
Number of matches										

Next in the pattern

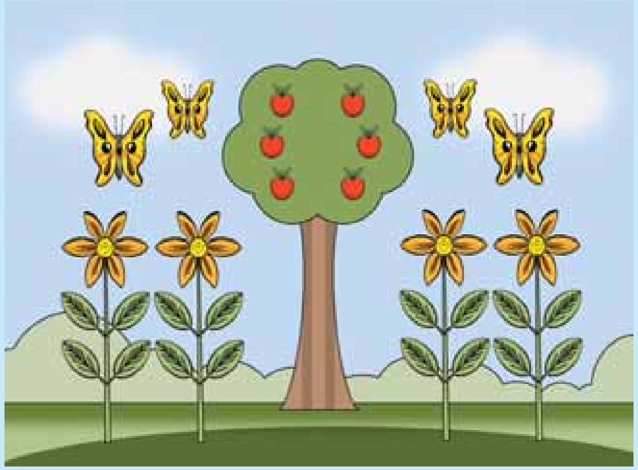
What will the next number in the pattern be? 5, 20, 80, ...

Sign:
Date:

58a Lines of symmetry

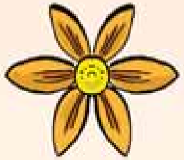
Can you still remember what line symmetry means? Show the objects that are symmetrical.

An object is symmetrical when one half is a mirror image of the other half.

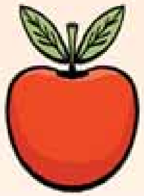


1. **Draw a line to show that the object is symmetrical.**

a.



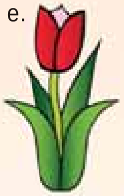
b.



c.

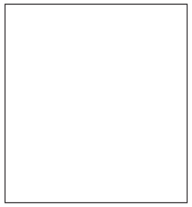
d.

e.

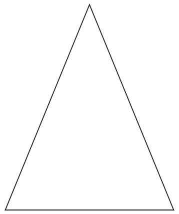


2. **Draw a line of symmetry.**

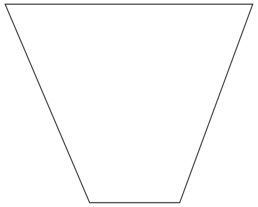
a.



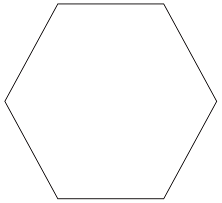
b.



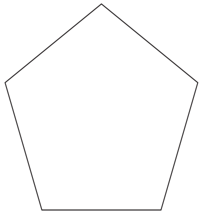
c.



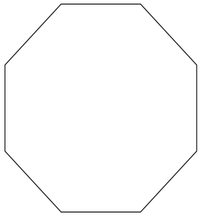
d.



e.

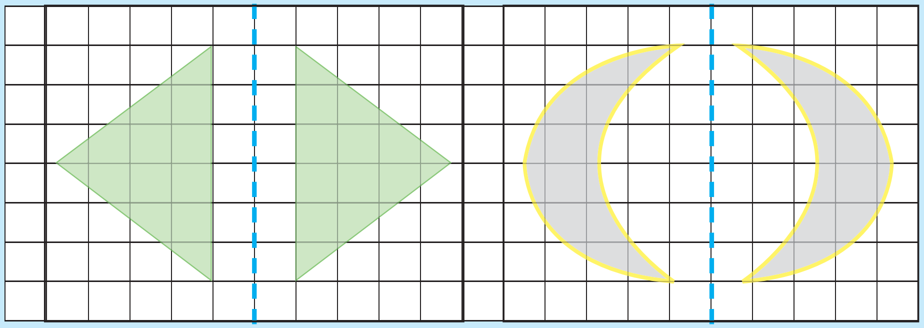


f.



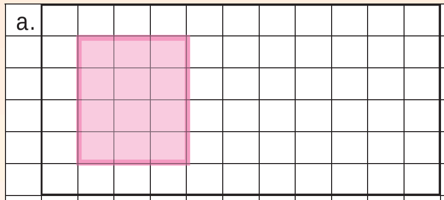
Reflection

What can you tell about the shapes below?

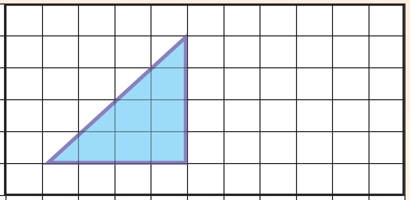


3. **Draw the reflection of the shape and show the line of reflection.**

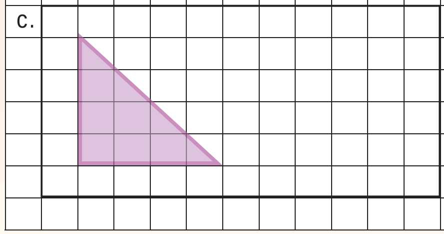
a.



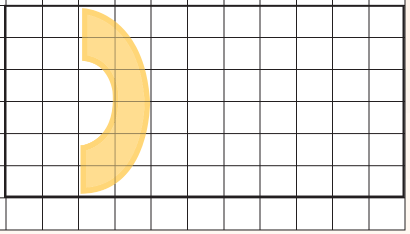
b.



c.



d.



Sign:

Date:

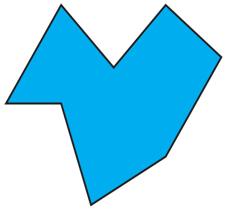
58b Lines of symmetry continued

4. Say if the following shapes

i. Have lines of symmetry

ii. If so, how many lines of symmetry?

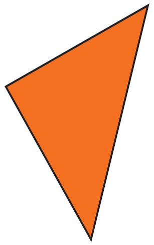
a.



i. ____________________

ii. ____________________

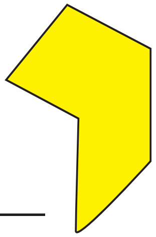
b.



i. ____________________

ii. ____________________

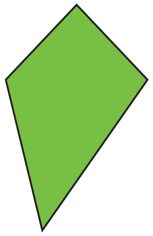
c.



i. ____________________

ii. ____________________

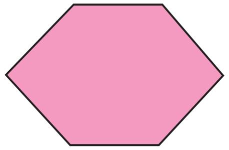
d.



i. ____________________

ii. ____________________

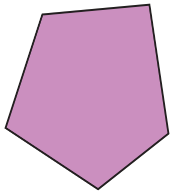
e.



i. ____________________

ii. ____________________

f.

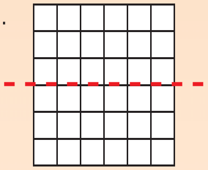


i. ____________________

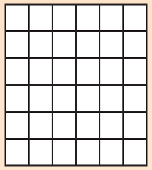
ii. ____________________

5. There are four common directions. Show the different lines of symmetry on the **squared paper**. We did the first one for you.

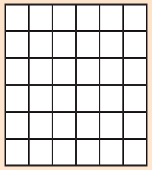
a.



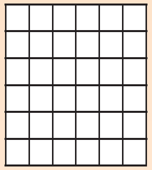
b.



c.

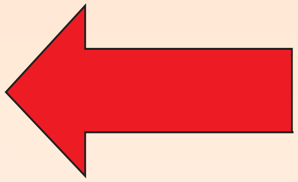


d.

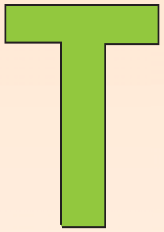


6. Draw lines of symmetry to show these types of line symmetry.

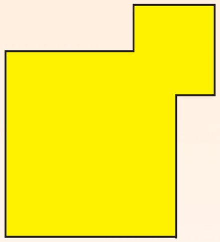
a.



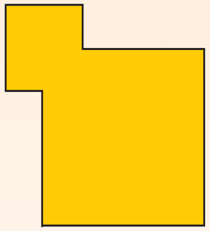
b.



c.

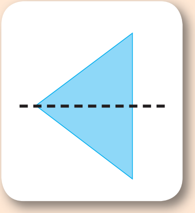


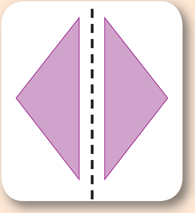
d.

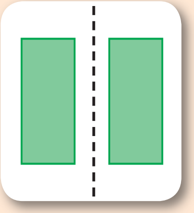


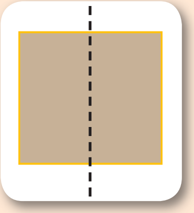
You decide.

For each set of shapes, say whether it is reflective symmetry or reflection.









Sign:

Date:

Term 2

59a Sharing and grouping problems

Can you still remember what you did to groups of numbers to make them equal?

7 000 8 000 9 000

Can you move the numbers to make 3 equal groups?

What operation can you use to determine the total?

Make a drawing of your work.

1. Complete the following:

a. Move the numbers to make 3 equal groups.

b. Write down an addition and multiplication sum for each.

i. 300, 400, 500

a.

b.

ii. 7 000, 8 000, 9 000

a.

b.

iii. 8 000, 10 000, 12 000

a.

b.

iv. 14 000, 16 000, 18 000

a.

b.

v. 3 000, 5 000, 7 000

a.

b.

vi. 13 000, 15 000, 17 000

a.

b.

2. Calculate the following:

a. Six groups of 900.

b. Five groups of 1 500.

c. Twelve groups of 1 200.

d. Fifty groups of 300.

e. Thirty groups of 80.

f. A hundred groups of 200.

3. Calculate the following:

a. Share 16 000 between 4.

b. Share 15 000 between 3.

c. Share 12 000 between 5.

d. Share 13 000 between 50.

e. Share 12 000 between 30.

f. Share 18 000 between 300.

Divisibility rules. These divisibility rules will help you with sharing.

A number is divisible by 2 if the last digit is 0, 2, 4, 6 or 8.

A number is divisible by 3 if the sum of the digits is divisible by 3.

A number is divisible by 4 if the number formed by the last two digits is divisible by 4.

A number is divisible by 5 if the last digit is either 0 or 5.

A number is divisible by 10 if the last digit is 0.

Sign:

Date:

continued ☛

59b Sharing and grouping problems continued

Term 2

4. Complete the table below.

Number	Can you divide the number by:	Why?	Show the sum:	Addition sum	Multiplication sum
1 860	3		1 860 ÷ 3 = 620	620 + 620 + 620 = 1 860	620 x 3 = 1 860
8 945	5				
16 748	4				
18 340	10				

5. Answer true or false.

a. 19 754 is divisible by 2.

b. 7 985 is divisible by 5.

c. 14 578 is divisible by 3.

d. 2 832 is divisible by 4.

e. 14 931 is divisible by 2.

f. 13 970 is divisible by 5.

g. 11 322 is divisible by 4.

h. 18 934 is divisible by 10.

i. 16 890 is divisible by 10.

j. 12 324 is divisible by 3.

k. 15 210 is divisible by 3.

l. 19 348 is divisible by 4.

6. Complete the table below. The first one has been done for you.

________ is divisible by:	Circle the correct number (s).
a. 120	[✓ 2] [✓ 3] [✓ 4] [✓ 5] [✓ 6] [✓ 8] 9 [✓ 10]
b. 175	2 3 4 5 6 8 9 10
c. 846	2 3 4 5 6 8 9 10
d. 3 600	2 3 4 5 6 8 9 10
e. 8 760	2 3 4 5 6 8 9 10

7. Write down 5-digit numbers smaller than 20 000 and divisible by:

a. 2

b. 3

c. 4

d. 5

e. 6

f. 8

g. 9

h. 10

How fast are you?

Colour in the numbers that are divisible by:

3

12	25	16	41	19	91	81	31	37	77	50	58	75
7	15	17	43	52	96	82	33	38	76	50	99	70
22	26	18	40	45	92	80	34	72	79	51	2	4
31	13	29	33	53	94	85	36	71	66	55	8	11

Sign:

Date:

60 Ratio

In the class

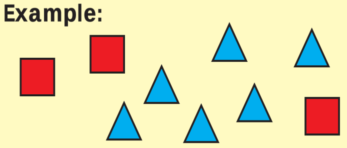
- How many children are in your class?
- How many are boys?
- How many are girls?
- What is the ratio between boys and girls?

At home

- How many family members do you have?
- How many are male?
- How many are female?
- What is the ratio between male and female?

1. Complete the following table by writing the Ratios as fractions and as ratios using the word “to” and with a colon.

Example:



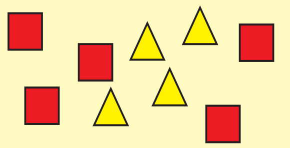
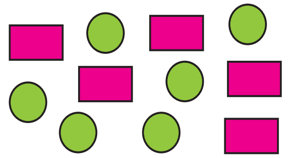
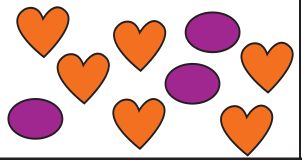
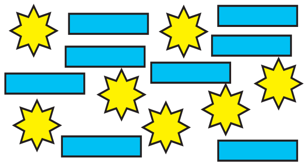
As a fraction:

$\frac{3}{9}$ Three of the nine shapes are red squares.

$\frac{6}{9}$ Six of the nine shapes are blue triangles

As a ratio:

3 to 4 or 3:4

	Fraction	‘to’	Colon
	$\frac{5}{9}$ red squares $\frac{4}{9}$ yellow triangles	5 to 4	5:4
			
			
			

2. Complete the following table .

During a class activity we played a variety of games in mixed boy and girl groups.	Ratio	How many children played the game?	Fraction Boys	Fraction Girls
a. **Game 1:** If there are 1 boy and 3 girls who played, the ratio is:	1 to 3 1:3	4	$\frac{1}{4}$ (1 ÷ 4) are boys	$\frac{3}{4}$ (3 ÷ 4) are girls
b. **Game 2:** If there are 4 boys and 5 girls who played, the ratio is:				
c. **Game 3:** If there are 2 boys and 3 girls who played, the ratio is:				
d. **Game 4:** If there are 6 boys and 5 girls who played, the ratio is:				
e. **Game 5:** If there are 9 boys and 3 girls who played, the ratio is:				

f. What is the ratio of boys to girls in your class? Show your answer by drawing it.

____

The recipe

The recipe says that for every 4 cups of sugar, 1 cup of butter is needed. If 50 cups of sugar is used, how many cups of butter is needed?

Sign:

Date:

61 Division without remainders using clue boards

Term 2

Describe the pattern. Choose 5 sums and change them into division sums.

1	x	25	=	25
2	x	25	=	50
3	x	25	=	75
4	x	25	=	100
5	x	25	=	125
6	x	25	=	150
7	x	25	=	175
8	x	25	=	200
9	x	25	=	225

10	x	25	=	250
20	x	25	=	500
30	x	25	=	750
40	x	25	=	1 000
50	x	25	=	1 250
60	x	25	=	1 500
70	x	25	=	1 750
80	x	25	=	2 000
90	x	25	=	2 250

100	x	25	=	2500
200	x	25	=	5000
300	x	25	=	7500
400	x	25	=	10 000
500	x	25	=	12 500
600	x	25	=	15 000
700	x	25	=	17 500
800	x	25	=	20 000
900	x	25	=	22 500

1. Calculate using both methods and check your answers.

Example 1:
884 ÷ 34 =
How many groups of 34 will give me 884?

You say:	You write:
10 groups of 34 = 340	10 x 34 = 340
20 groups of 34 = 680	20 x 34 = 680
30 groups of 34 = 1 020	30 x 34 = 1 020

- **20 groups** of 34 is 680
- 30 groups of 34 is 1 020
- 1 020 is too big, so we choose 680.

So we can say **20 groups** of 34 is 680.
We then subtract: : 884 – 680 = 204

Now we need to ask. How many groups of 17 will give me 108?

1 groups of 34 = 34	1 x 34 = 34
2 groups of 34 = 68	2 x 34 = 68
3 groups of 34 = 102	3 x 34 = 102
4 groups of 34 = 136	4 x 34 = 136
5 groups of 34 = 170	5 x 34 = 170
6 groups of 34 = 204	6 x 34 = 204
7 groups of 34 = 238	7 x 34 = 238

- **6 groups** of 34 is 204
- 7 groups of 34 is 238
- 238 is too big, so we choose 204

So we can say **6 groups** of 34 is 204.
We then subtract: 204 – 204 = 0
20 groups + 6 groups = 26 groups rem 6
884 ÷ 34 = 26

Example 2:

```
     26
34 | 884
   – 68
     204
   – 204
       0
```

20 groups of 34 is 680

6 groups of 34 is 204

Test your answer:
34 x 26
=(30 + 4) x (20 + 6)
=(30 x 20) + (30 x 6)
=(4 x 20) + (4 x 6)
= 600 + 180 + 80 + 24
= 700 + 180 + 4
= 700 + 100 + 80 + 4
= 884

a. 475 ÷ 25 =

b. 673 ÷ 32 =

c. 1 375 ÷ 25 =

d. 1 984 ÷ 32 =

Going fast ...

How fast can you multiply 12 with all the units and then with the multiples of 10. What do you notice?

Sign:

Date:

62 Division with remainders

How fast can you answer the following.

a. 13 ÷ 6 = 2 rem 1	b. 57 ÷ 2 =	c. 48 ÷ 9 =	d. 64 ÷ 7 =
e. 29 ÷ 2 =	f. 80 ÷ 9 =	g. 62 ÷ 5 =	h. 38 ÷ 3 =
i. 40 ÷ 6 =	j. 37 ÷ 4 =	k. 29 ÷ 3 =	l. 50 ÷ 8 =
m. 38 ÷ 5 =	n. 73 ÷ 10 =	o. 25 ÷ 2 =	p. 19 ÷ 4 =
q. 52 ÷ 7 =	r. 67 ÷ 8 =	s. 50 ÷ 4 =	t. 70 ÷ 6 =

1. Test the answers of the first three sums above.

a. 13 ÷ 6 =

13 ÷ 6 = 2 rem 1

Test
2 x 6 + 1
= 12 + 1
= 13

b. 57 ÷ 2 =

c. 48 ÷ 9 =

2. Divide the following and test your answer.

Example 1:
a. 448 ÷ 17 =
How many groups of 17 will give me 448?

You say:	You write:
10 groups of 17 = 170	10 x 17 = 170
20 groups of 17 = 340	20 x 17 = 340
30 groups of 17 = 510	30 x 17 = 510

- **20 groups** of 17 is 340
- 30 groups of 17 is 510
- 510 is too big, so we choose 340.

So we can say **20 groups** of 17 is 340.
We then subtract: 448 – 340 = 108

Now we need to ask. How many groups of 17 will give me 108?

1 groups of 17 = 17	1 x 17 = 17
2 groups of 17 = 34	2 x 17 = 34
3 groups of 17 = 51	3 x 17 = 51
4 groups of 17 = 68	4 x 17 = 68
5 groups of 17 = 85	5 x 17 = 85
6 groups of 17 = 102	6 x 17 = 102
7 groups of 17 = 119	7 x 17 = 119

- **6 groups** of 17 is 102
- 7 groups of 17 is 119
- 119 is too big, so we choose 102

So we can say **6 groups** of 17 is 102.
We then subtract: 108 – 102 = 6
20 groups + 6 groups = 26 groups rem 6
448 ÷ 17 = 26 rem 6

Example 2:

$$\begin{array}{r|l} & \text{26 rem 6} \\ 17 & 448 \\ & -\ 34 \\ & 108 \\ & -\ 102 \\ & 6 \end{array}$$

20 groups of 17 is 340

6 groups of 17 is 102

Test your answer:
(26 x 17) **+ 6**
= (20 + 6) x (10 + 7) **+ 6**
= (20 x 10) + (20 x 7) + (6 x 10) + (6 x 7) **+ 6**
= 200 + 140 + 60 + 42 **+ 6**
= 200 + 100 + 40 + 60 + 2 **+ 6**
= 200 + 100 + 40 + 60 + 40 + 2 **+ 6**
= 300 + 140 + 8
= 448

a. 460 ÷ 19 =

b. 810 ÷ 25 =

a. 1 250 ÷ 15 =

b. 1 964 ÷ 25 =

Sign:

Date:

63 Division

Rules of divisibility:

2 – If the last digit is an even number.
3 – If the sum of the digits is divisible by 3, the whole number is also divisible by 3.
4 – If the number made by the last two digits is divisible by 4, the whole number is also divisible by 4.
5 – If the last digit is a 5 or a 0, the number is divisible by 5.
6 – If the number is divisible by both 3 and 2, it is also divisible by 6.
7 – Take the last digit, double it, and subtract it from the rest of the number; if the answer is divisible by 7 (including 0), then the whole number is also divisible by 7.
8 – If the sum of the last three digits is divisible by 8, the whole number is also divisible by 8.
9 – If the sum of all the digits is divisible by 9, the number is also divisible by 9.
10 – If the number ends in 0, it is divisible by 10.
11 – Subtract the sum of the even digits from the sum of the odd digits; if the difference, including 0, is divisible by 11, the number is also divisible by 11.
12 – If the number is divisible by both 3 and 4, it is also divisible by 12.

1. Are the following numbers divisible by 3. Show your workings.

Example: 2 079

- Add the digits: 2 + 0 + 7 + 9 = 18
- 18 is a multiple of 3
- So 2 079 is divisible by 3

a. 345 ____________________

b. 651 ____________________

c. 1 263 ____________________

2. Are the following numbers divisible by 4. Show your workings.

Example: 5 324

- What are the last 2 digits? 24
- 24 is a multiple of 4
- So 5 324 is divisible by 4

a. 532 ____________________

b. 628 ____________________

c. 2 916 ____________________

3. Are the following numbers divisible by 6. Show your workings.

Example: 6 294

- Is the number a multiple of 2? Yes because it ends on an even number.
- Is the number a multiple of 3? 6 + 2 + 9 + 4 = 21, 21 is a multiple of 3
- So 6 294 is divisible by 6

a. 636 ____________________

b. 508 ____________________

c. 5 912 ____________________

4. Are the following numbers divisible by 9. Show your workings.

Example: 4 572

- 4 + 5 + 7 + 2 = 18
- 18 is a multiple of 9
- So 4 572 is divisible by 9

a. 252 ____________________

b. 883 ____________________

c. 5 105 ____________________

5. Say if the number is divisible by ____. Tick the correct column.

	2	3	4	5	6	7	8	9	10
a. 540	✓								
b. 192	✓								
c. 420	✓								

Passwords

- Themba has to make a 4 digit password that should be divisible by 2, 3 and 6. What could the password be?
- Create another four passwords for Themba that are 4 digits long and are divisible by 2, 3 and 6.

Test your answers.

Sign:

Date:

64 Division problems

Look at the words below. What do they all mean?

Equal sharing	Equal parts	Divided by	Ratio
per	Factors	Quotient	÷

1. Solve the following problems.

a. Richard earns R19 per hour as a student. If he worked 51 hours during the holidays, how much money would he earn?____________________

Test your answer.

b. Themba earned R8 960. If he earns R56 an hour, how many hours did he work?____________________

Test your answer.

c. I need to organise a big party. I have R3 640 in my budget for small gifts. The small gifts cost R13. How many people could I invite?

____

Test your answer.

d. A pack of crayons costs R18 per pack. I have R950. How many packs can I buy? What will my change be?

____

Test your answer.

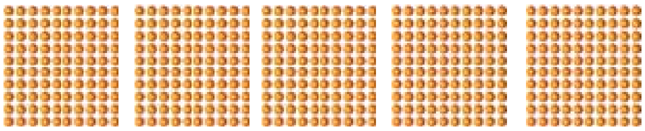
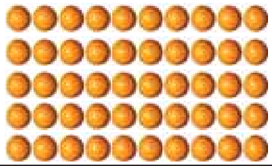
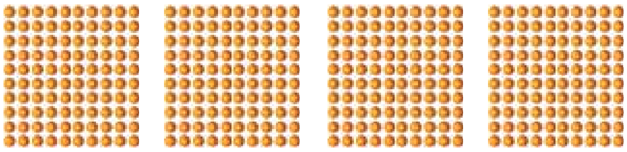
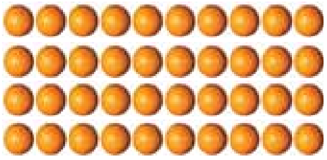
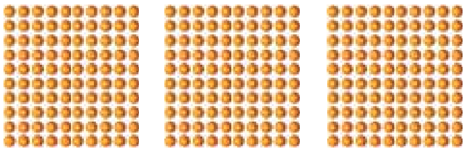
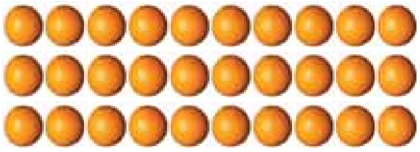
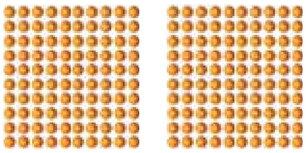
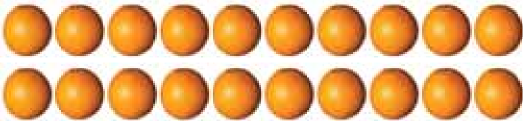
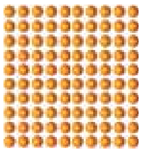
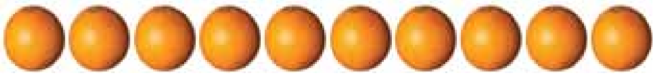
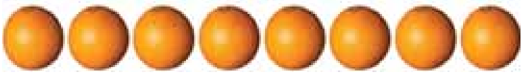
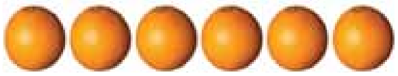
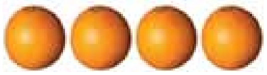
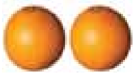
More money problems

Share with a friend or family member how you solved these problems. Now write you own word problem using money. Solve it.

Sign:

Date:

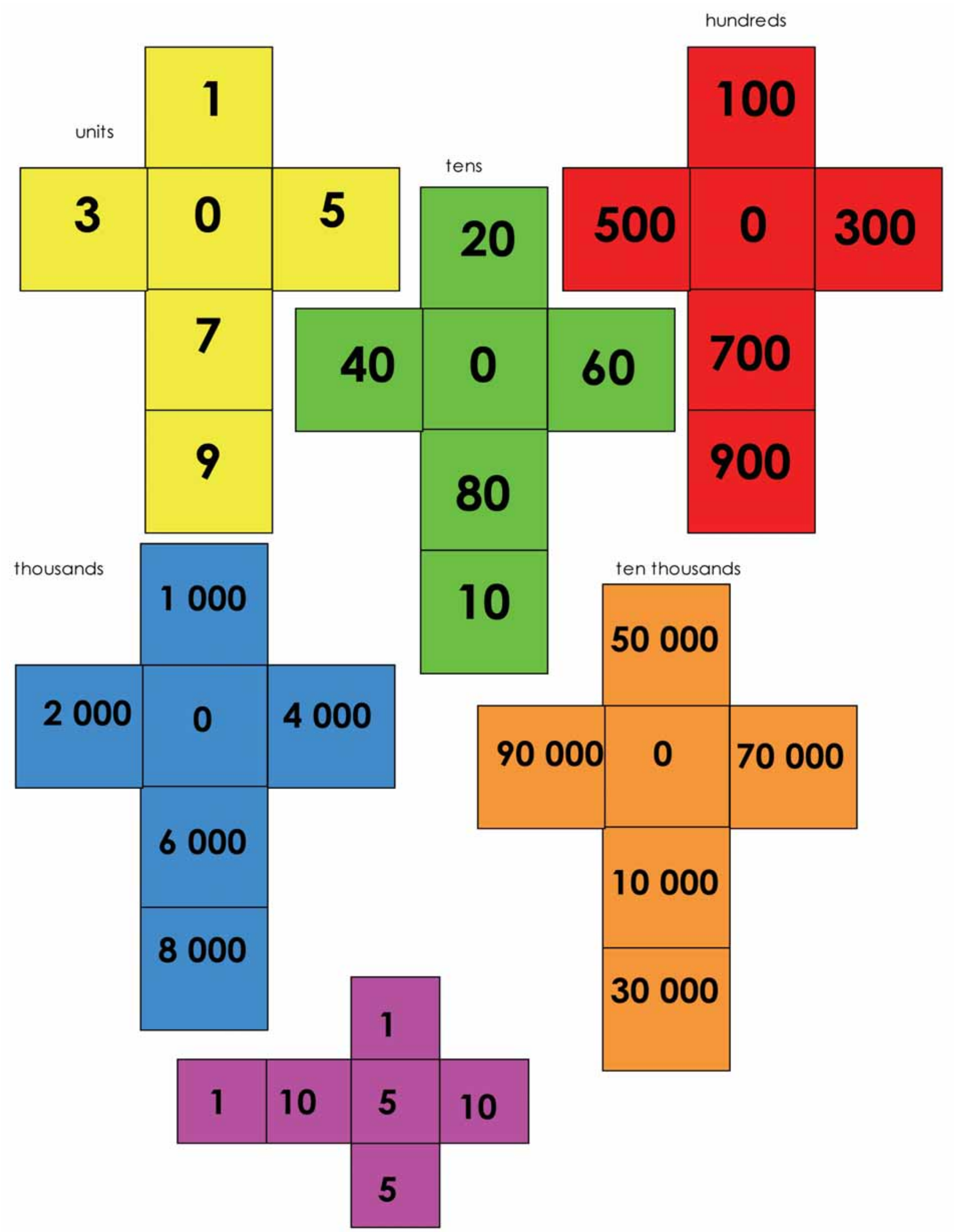
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

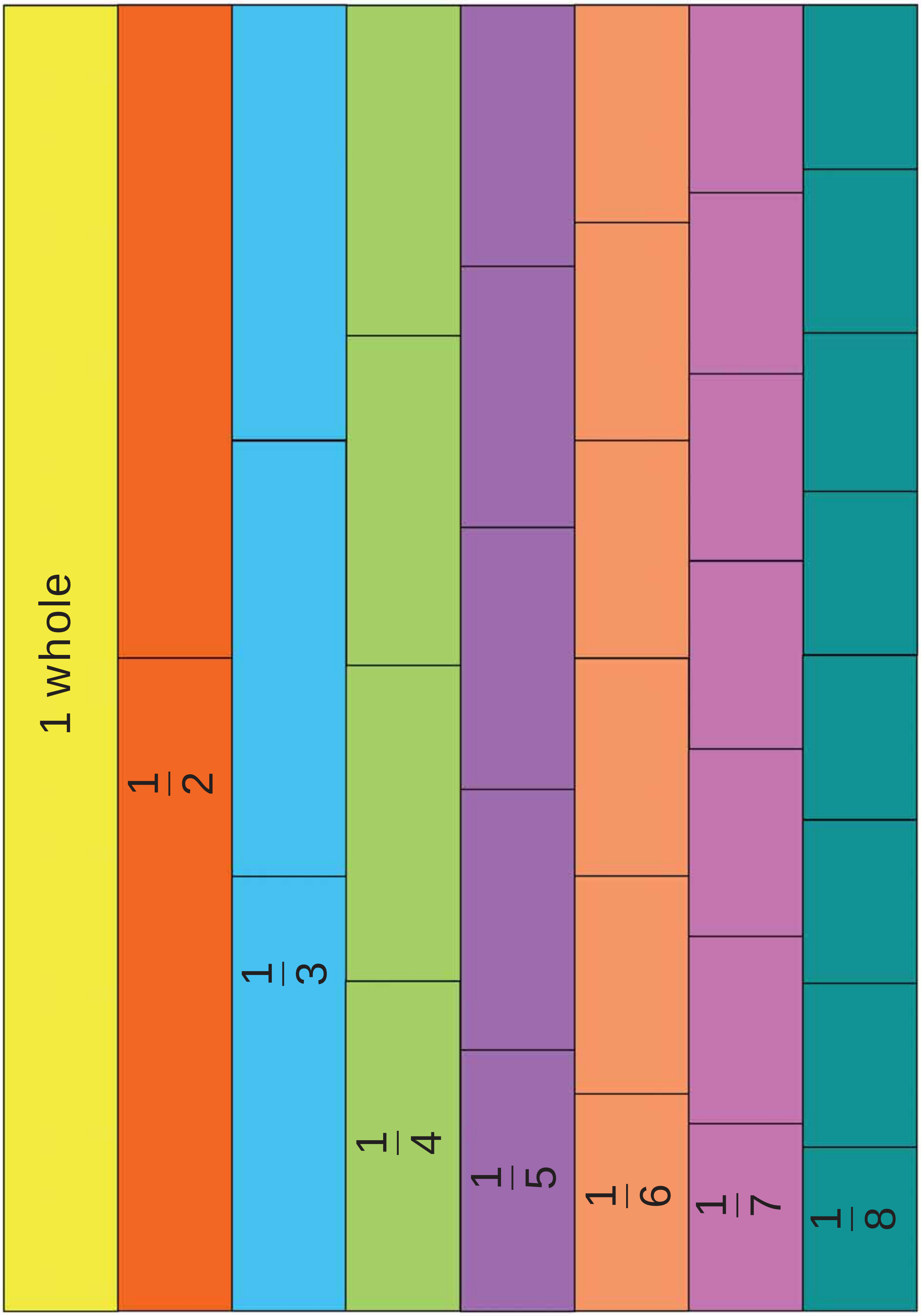
1	10	100	1000
2	20	200	2000
3	30	300	3000
4	40	400	4000
5	50	500	5000
6	60	600	6000
7	70	700	7000
8	80	800	8000
9	90	900	9000

Mathematics Grade 5 Cut-out 3

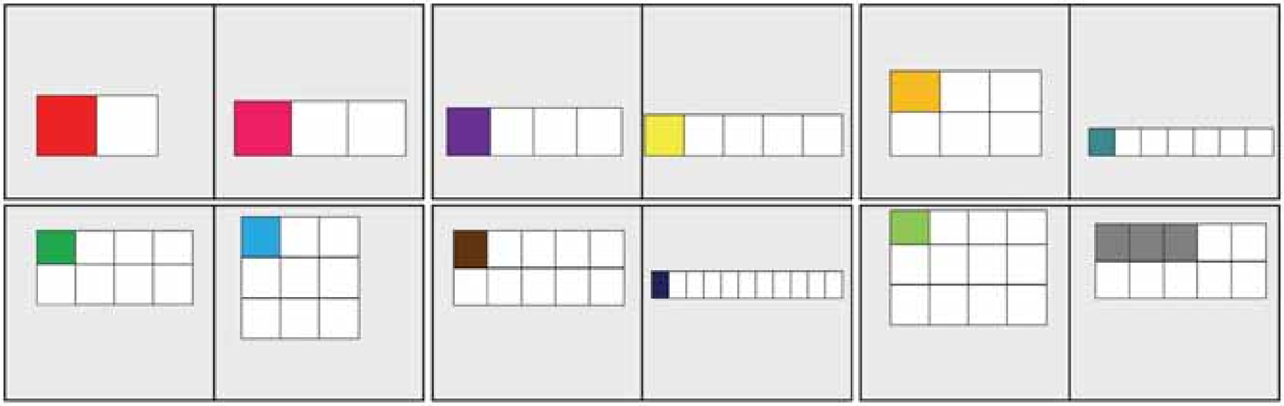
Note: Make dice from these cut-outs. After assembling the dice, keep them in a safe place because you will use them throughout the year.

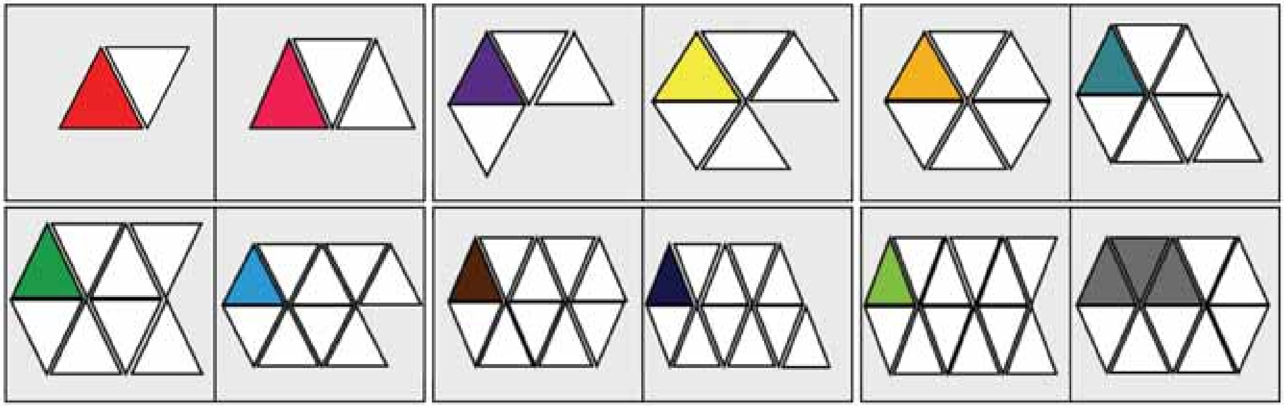


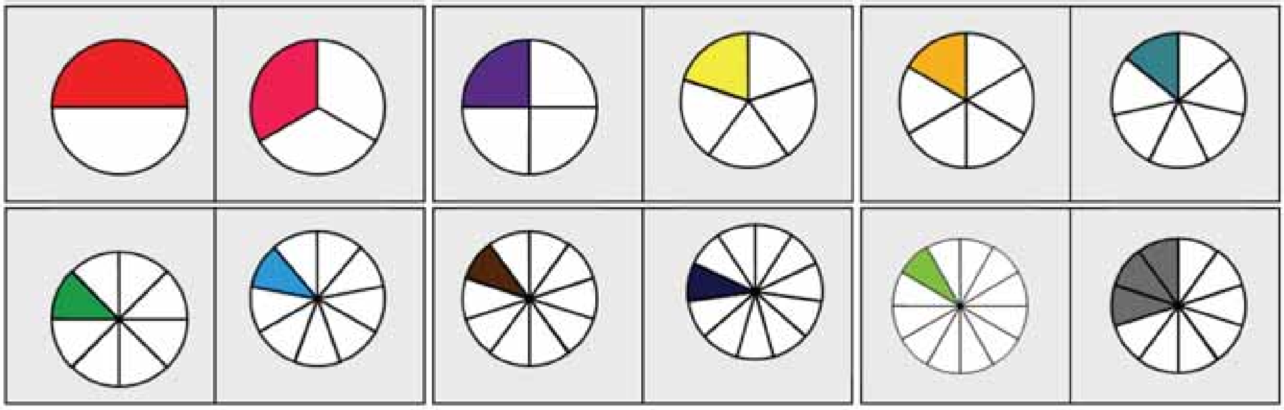
Mathematics Grade 5 **Cut-out 4**



$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{6}$	$\frac{1}{7}$
$\frac{1}{8}$	$\frac{1}{9}$	$\frac{1}{10}$	$\frac{1}{11}$	$\frac{1}{12}$	$\frac{3}{10}$







Mathematics Grade 5 Cut-out 6