basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

ANNUAL NATIONAL ASSESSMENT

GRADE 3

MATHEMATICS

SET 3: 2012 EXEMPLAR

GUIDELINES FOR THE USE OF ANA EXEMPLARS

1. General overview

The Annual National Assessment (ANA) is a summative assessment of the knowledge and skills that learners are expected to have developed by the end of each of the Grades 1 to 6 and 9. To support their school-based assessments and also ensure that learners gain the necessary confidence to participate with success in external assessments, panels of educators and subject specialists developed exemplar test questions that teachers can use in their Language and Mathematics lessons. The exemplar test questions were developed based on the curriculum that covers terms 1, 2 and 3 of the school year and a complete ANA model test for each grade has been provided. The exemplars, which include the ANA model test, supplement the school-based assessment that learners must undergo on a continuous basis and does not replace the school based assessment.

2. The structure of the exemplar questions

The exemplars are designed to illustrate different techniques or styles of assessing the same skills and/or knowledge. For instance, specific content knowledge or a skill can be assessed through a multiple-choice question (where learners select the best answer from the given options) or a statement (that requires learners to write a short answer or a paragraph) or other types of questions (asking learners to join given words/statements with lines, to complete given sentences or patterns, to show their answers with drawings or sketches, etc.). Therefore, teachers will find a number of exemplar questions that are structured differently but are targeting the same specific content and skill. Exposure to a wide variety of questioning techniques or styles gives learners the necessary confidence to respond to different test items.

3. Links with other learning and teaching resource materials

For the necessary integration, some of the exemplar texts and questions have been deliberately linked to the grade-relevant workbooks. The exemplars have also been aligned with the requirements of the National Curriculum Statement (NCS), Grades R to 12, the Curriculum and Assessment Policy Statements (CAPS) for the relevant grades and the National Protocol for Assessment. These documents, together with any other that a school may provide, will constitute a rich resource base to help teachers in planning lessons and conducting formal assessment.

4. How to use the exemplars

While the exemplars for a grade and a subject have been compiled into one comprehensive set, the learner does not have to respond to the whole set in one sitting. The teacher should select exemplar questions that are relevant to the planned lesson at any given time. Carefully selected individual exemplar test questions, or a manageable group of questions, can be used at different stages of the teaching and learning process as follows:

4.1   At the beginning of a lesson as a diagnostic test to identify learner strengths and weaknesses. The **diagnosis** must lead to prompt **feedback** to learners and the development of **appropriate lessons** that address the identified weaknesses and consolidate the strengths. The diagnostic test could be given as homework to save instructional time in class.

4.2   During the lesson as short formative tests to assess whether learners are developing the intended knowledge and skills as the lesson progresses and ensure that no learner is left behind.

4.3 At the completion of a lesson or series of lessons as a summative test to assess if the learners have gained adequate understanding and can apply the knowledge and skills acquired in the completed lesson(s). Feedback to learners must be given promptly while the teacher decides on whether there are areas of the lesson(s) that need to be revisited to consolidate particular knowledge and skills.

4.4 At all stages to expose learners to different techniques of assessing or questioning, e.g. how to answer multiple-choice (MC) questions, open-ended (OE) or free-response (FR) questions, short-answer questions, etc.

While diagnostic and formative tests may be shorter in terms of the number of questions included, the summative test will include relatively more questions, depending on the work that has been covered at a particular point in time. It is important to ensure that learners eventually get sufficient practice in responding to full tests of the type of the ANA model test.

5. Memoranda or marking guidelines

A typical example of the expected responses (marking guidelines) has been given for each exemplar test question and for the ANA model test. Teachers must bear in mind that the marking guidelines can in no way be exhaustive. They can only provide broad principles of expected responses and teachers must interrogate and reward acceptable options and variations of the acceptable response(s) given by learners.

6. Curriculum coverage

It is extremely critical that the curriculum must be covered in full in every class. The exemplars for each grade and subject do not represent the entire curriculum. They merely **sample** important knowledge and skills and covers work relating to terms 1, 2 and 3 of the school year. The pacing of work to be covered according to the school terms is specified in the relevant CAPS documents.

7. Conclusion

The goal of the Department is to improve the levels and quality of learner performance in the critical foundational skills of literacy and numeracy. ANA is one instrument the Department uses to monitor whether learner performance is improving. Districts and schools are expected to support teachers and provide necessary resources to improve the effectiveness of teaching and learning in the schools. By using the ANA exemplars as part of their teaching resources, teachers will help learners become familiar with different styles and techniques of assessing. With proper use, the exemplars should help learners acquire appropriate knowledge and develop relevant skills to learn effectively and perform better in subsequent ANA tests.

Number, Operations and Relationships

1. Write the missing numbers in the spaces provided.
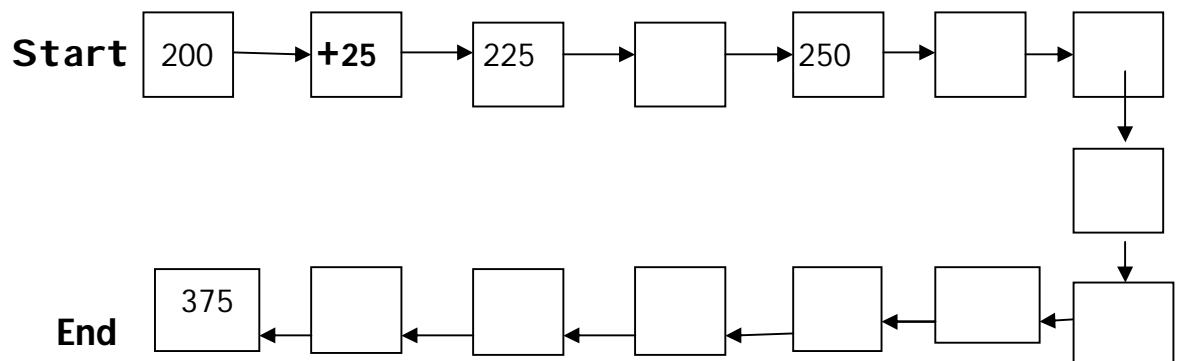
   a. 350; 450; _____ ; 650; _____ ; _____ ; 950

   b. 500; _____; 498; 497; _____ ; _____ ; 494

   c.

   240   244   252   264   268
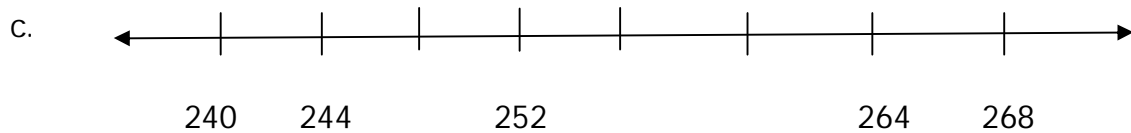
2. Complete the following table:

a.	50					300		400					650		
b.		126	129				141								165
c.	498					488					478			472	
d.	205				225					250		260			
e.		312		310	309				305						299

3. Follow the arrows and write the missing numbers in the boxes.

Start 200 → +25 → 225 → ☐ → 250 → ☐ → ☐ → ☐ → End 375 ← ☐ ← ☐ ← ☐ ← ☐ ← ☐ ← ☐

3

4.   Suzan works in a candle factory. She packs 10 candles in a box.
     The number of candles packed in 15 boxes = _____

5.   Look at the groups of candles in the picture below and
     answer the following questions:
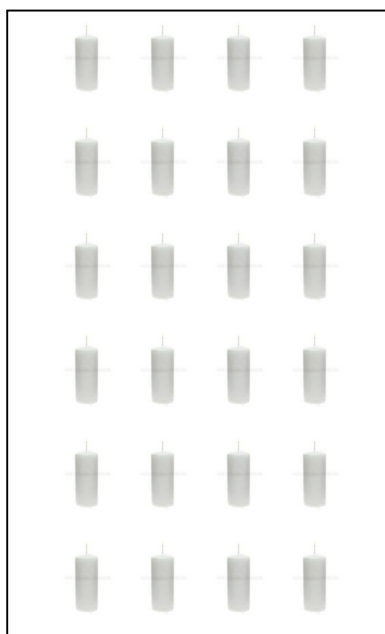
a.   How many candles are there in one vertical row?
     _____

b.   The total number of candles in the picture =
     _____

6. Write the number names for each of the following numbers:

   a.   473 _____

   b.   204 _____

7. Write the number name and number symbol for the number between 268 and 270.

   a.   The number symbol is _____.

   b.   The number name is _____ .

8. Write the number name for 780. _____

9. Match each number name with the correct number symbol by drawing a line between them.

Three hundred and sixty-one	160
Two hundred and ten	483
Three hundred and sixteen	361
One hundred and sixty	316
Four hundred and eighty-three	210

10. Write down the following ordinal numbers in order starting from the smallest to the greatest.

13th , 31st , 28th , 6th , 2nd

_____

11.
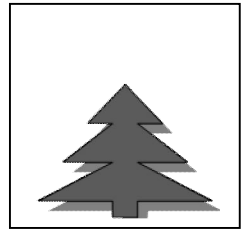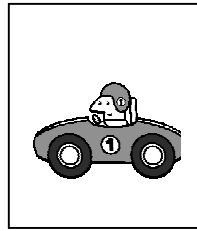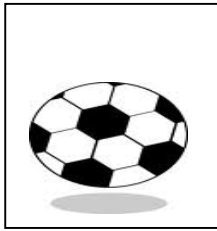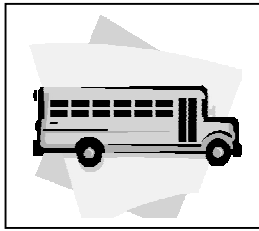
Look at the above pictures. In which box is the car from the left?

The car is in the _____ box from the left.

12. Fill in > or < to make each number sentence true.

a. 613 _____ 731

b. 490 _____ 290

c. 327 _____ 732

13. Circle the letter of the correct answer.

A   472 > 742

B   399 < 500 + 99

C   221 = 122

D   749 > 750 - 1

14. Write the given numbers from the smallest to the largest.

    a.   631; 366; 613; 376; 276; 167

         _____

    b.   742; 422; 472; 727; 442; 247

         _____

15. Fill in the missing numbers.

    a.   673 = _____   + 3

    b.   417 = 410 +   _____

16. Write down the value of the underlined digit in each number.

    a.   4<u>7</u>2 _____

    b.   2<u>7</u>   _____

17. In 694 there are 69 tens. Is this True or False? _____

18. Circle the correct answer.

    In the number 374, 3 is the place value for _____.

    A   tens

    B   hundreds

    C   units

19. Break down 573 in 2 different ways.

573 = _____

573 = _____

20. Write the missing numbers or words in the boxes.

a. 298 = ☐ hundreds + ☐ tens + ☐ units

b. 310 = 3 ☐ + 1 ☐ + 0 ☐

21. Match the numbers to the correct number cards.

316	
128	
411	
269	

400	1	10
200	60	9
10	300	6
8	20	100

22. Write 10 + 7 + 300 in the simplest form.

_____

8

23. Fill in the missing numbers.

	Number doubled	Number	Number halved
a.		150	
b.		84	
c.		21	

24.

348   349   354
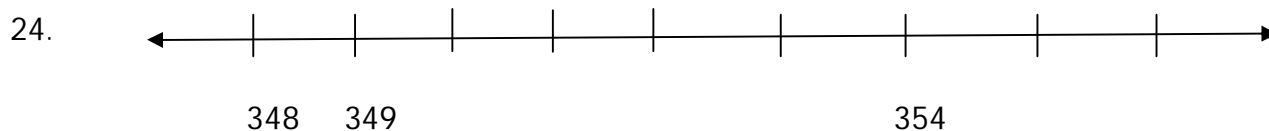
25. Round off each number to the nearest ten.
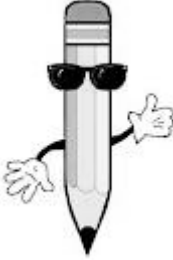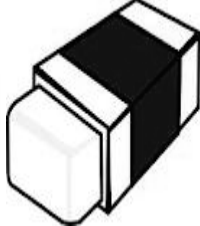
a. 62 = _____ to the nearest ten.

b. 127 = _____ to the nearest ten.

26. The teacher asked her learners to collect bottle tops over the weekend. Sassy collected 619 bottle tops and Lebo collected 125. How many bottle tops did Sassy and Lebo collect altogether?

27. Anna and her 3 friends are collecting stamps for a game they want to play. Each one collected 23 stamps. How many stamps did they collect altogether?

28. The teacher brought 45 biscuits to school. She wants to give an equal number of biscuits to each of the 4 learners who come to school early. How many biscuits will each of the learners get?

29. Share 68 marbles equally between Themba and his friend. How many marbles will each one get?

30. Three friends buy 35 sweets which they share equally amongst themselves. How many sweets should each one get?

31. Vera has 125 marbles. Busi has 82 fewer marbles than Vera. How many marbles does Busi have

32. In an office parking area there are 21 cars. How many wheels are there altogether including the steering wheel?

33. Use the price list below to answer the following questions:

Price List

| R3,50 | R 15,00 a box | R 2,20 | R 7,40 | R 3,00 |

a. What is the difference between the price of a pen and the price of a pencil? _____

b. Sannie bought 2 pens, a pencil, a rubber and a pencil case. How much did she spend altogether?

c. The teacher wants to buy 2 boxes of crayons, 2 pens and 2 pencils. Calculate her change if she pays with a R50 bank note.

d. How many boxes of crayons did Masa buy if he paid R60 for them?

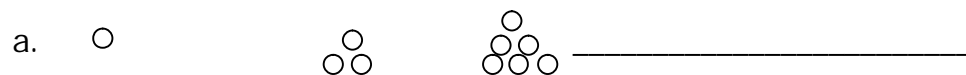34. Complete the following:

a. 763c = R_____

b. 207c = R _____

c. 579c = R_____

d. R2,63 = _____ c

e. R6,15 = _____c

f. R4,25 = _____

PATTERNS , FUNCTIONS AND ALGEBRA

1.   Draw the next diagram in each pattern.

   a.   ○   ○○   ○○○ _____
                    ○○

   b.   □   ⊞   ⊞⊟ _____

   c.   [▭]   [⊤]   [⊞⊞] _____

   d.   ⊢ ⊢ ⊔ ⊥ ⊢ ⊢ ⊔ ⊥   _____

2.   △   ✚   ▯
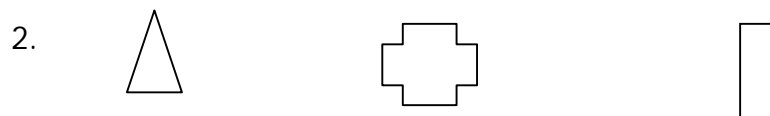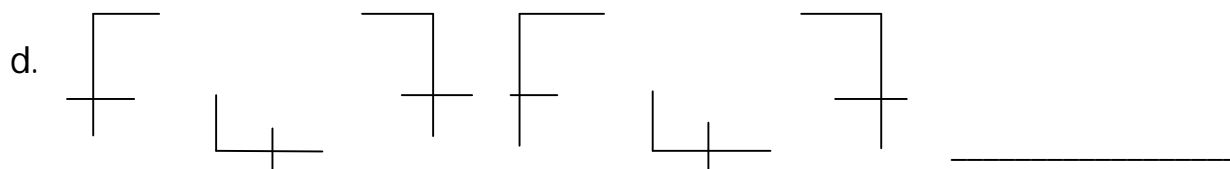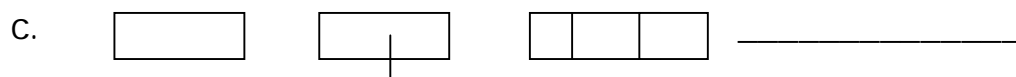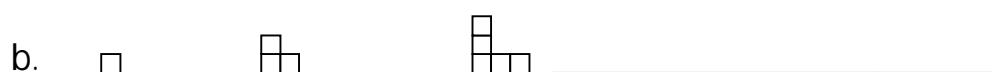
   Use the above shapes to make up your own pattern.
   Repeat your pattern 3 times.

3. a. Write down the next 3 numbers.

526, 527, 528, _____ , _____ , _____

Describe the pattern in your own words.

_____

b. Fill in the missing numbers in the sequence.

738, 736, 734, _____ , _____ , _____ , 726

Describe the pattern in your own words.

_____

4. A packer wants to pack cans of cooldrinks into crates.
One crate holds 25 cans of cooldrink.
Now complete the following table:

Number of crates	1	2	3	4		6
Number of cans	25	50		100	125	

14

5. Start with the given number to make your own pattern. Describe the rule which you used.

a. 330, _____, _____, _____.

Rule used is: _____

b. 504, _____, _____, _____.

Rule used is: _____
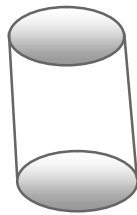
SPACE AND SHAPE

1. Circle the letter of the correct answer.

   Which of the following objects is a cone?

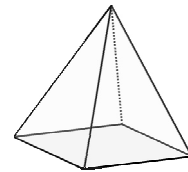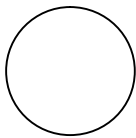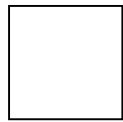   **A**   **B**   **C**   **D**
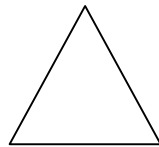
2. Circle the letter of the correct answer.

   Which of the following 2-D shapes are used to make a square-based pyramid?
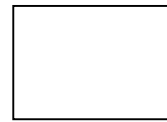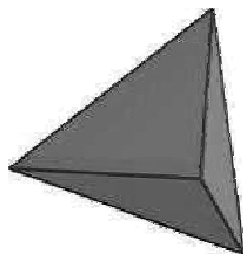
   A   B   C   D
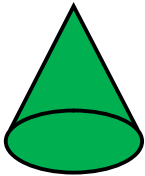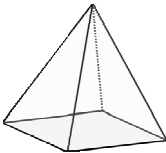
3. Examine the figure below and then answer the following questions:

   a.   What is the name of the above 3-D figure? _____

   b.   How many faces does the above 3-D figure have? _____

4. Draw a line to match each shape with its name.

	Square-based pyramid
	Cone
	Rectangular prism
	Cylinder

MEASUREMENT

1. Which unit of measurement will you use to measure

    a. the length of a book?   _____

    b. the width of a classroom?   _____

2. Study the calendar below and then answer the questions.


    a. The months that have 30 days each: _____; _____; _____; _____
    b. The total number of days in an ordinary year: _____

    c. The number of Saturdays in July: _____

    d. The number of weeks in a year: _____

    e. The number of months in a year: _____

    f. The number of days between the Worker's Day and Youth

       Day: _____

3. Refer to the calendar in question 2 and complete the following table:

	Date	SA Public Holiday	Day on the Calendar
a.	01 January 2012	New Year's Day	
b.	21 March 2012	Human Rights Day	
c.	01 May 2012	Worker's Day	
d.	16 June 2012	Youth Day	

4. 42 days is equal to _____ weeks.

5. 4 months is equal to _____ year.

6. Complete: If the minute-hand of a clock points to 10,

   it shows _____ or _____ .

7. First estimate and then use a ruler to measure the length
   of each side of the following diagrams in centimetres. Write
   the answer in the table.
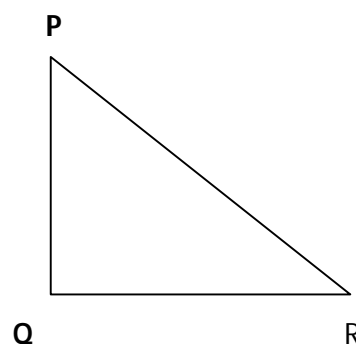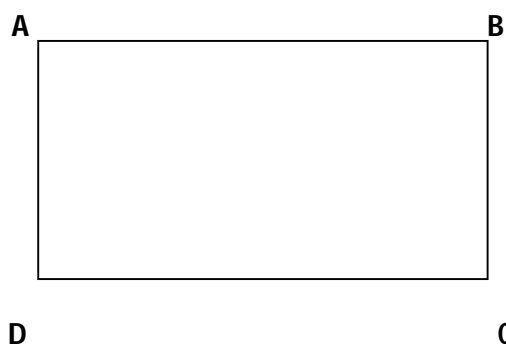
	Sides	Estimation	Actual Measurement
a.	AB		
b.	BC		
c.	DC		
d.	AD		
e.	PQ		
f.	PR		
g.	QR		

8. Calculate the total distance around each of the diagrams in question 7.

   a. For rectangle ABCD, the total distance = _____

   b. For triangle PQR, the total distance = _____

DATA HANDLING

1. Sammy recorded the shoe sizes of his grade 3 classmates as follows:

4	7	7	6	4	5	3	6
7	4	5	3	3	6	7	3
3	5	7	4	6	5	3	4
6	3	4	4	7	4	3	5

    a. Number of classmates wearing shoe size
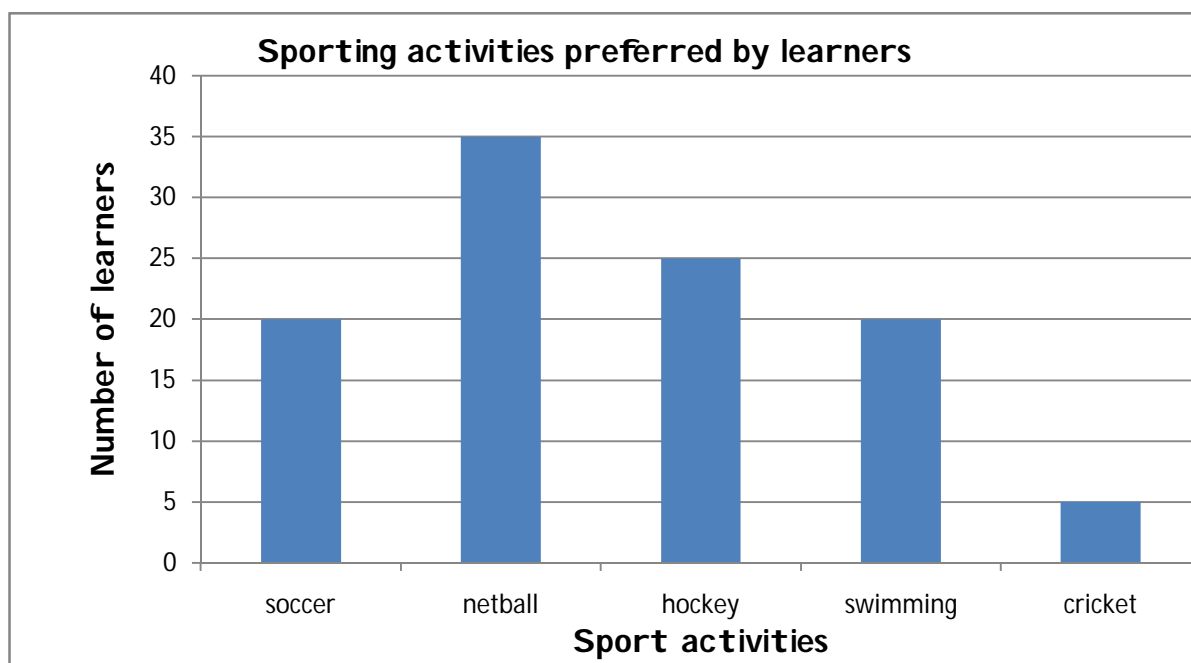
      3 = _____

      4 = _____

      5 = _____

      6 = _____

      7 = _____

    b. Draw a bar graph to illustrate the information.

2. Look at the bar graph below and then answer the following questions:

Sporting activities preferred by learners

a. How many learners prefer hockey? _____.

b. The number of learners who prefer cricket is _____.

c. The sport activity preferred by the most learners is ____.

d. The sport activity preferred by the least number of learners is _____.

e. Which 2 sport activities are preferred by the same number of learners? _____.

2. The following bar graph shows the number of cooldrinks sold in Sipho's tuckshop in a school week.

Number of cooldrinks sold
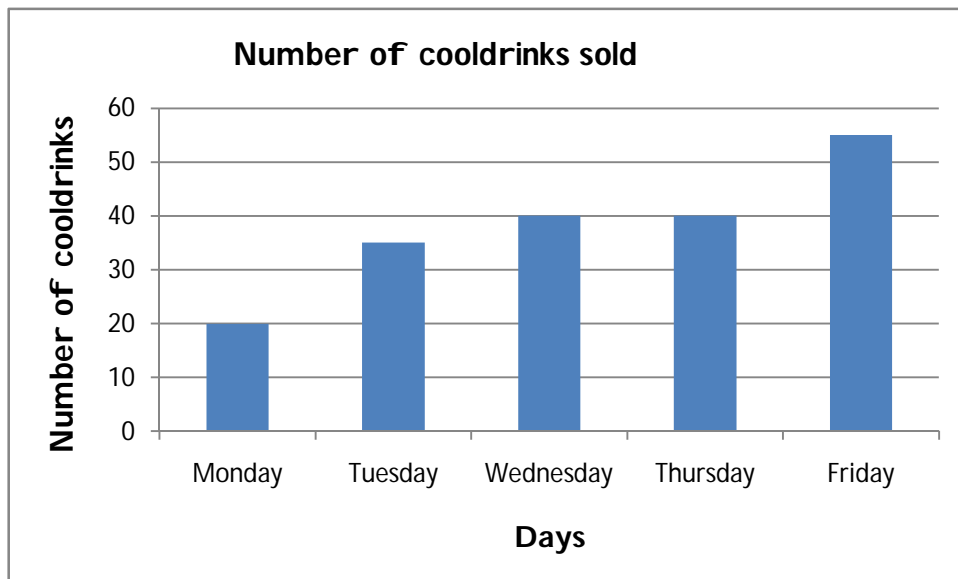
a. The number of cooldrinks sold on Monday: _____

b. The day when most cooldrinks were sold: _____

c. The number of cool drinks sold on Friday: _____

d. How many more cooldrinks were sold on Friday than on Thursday? _____