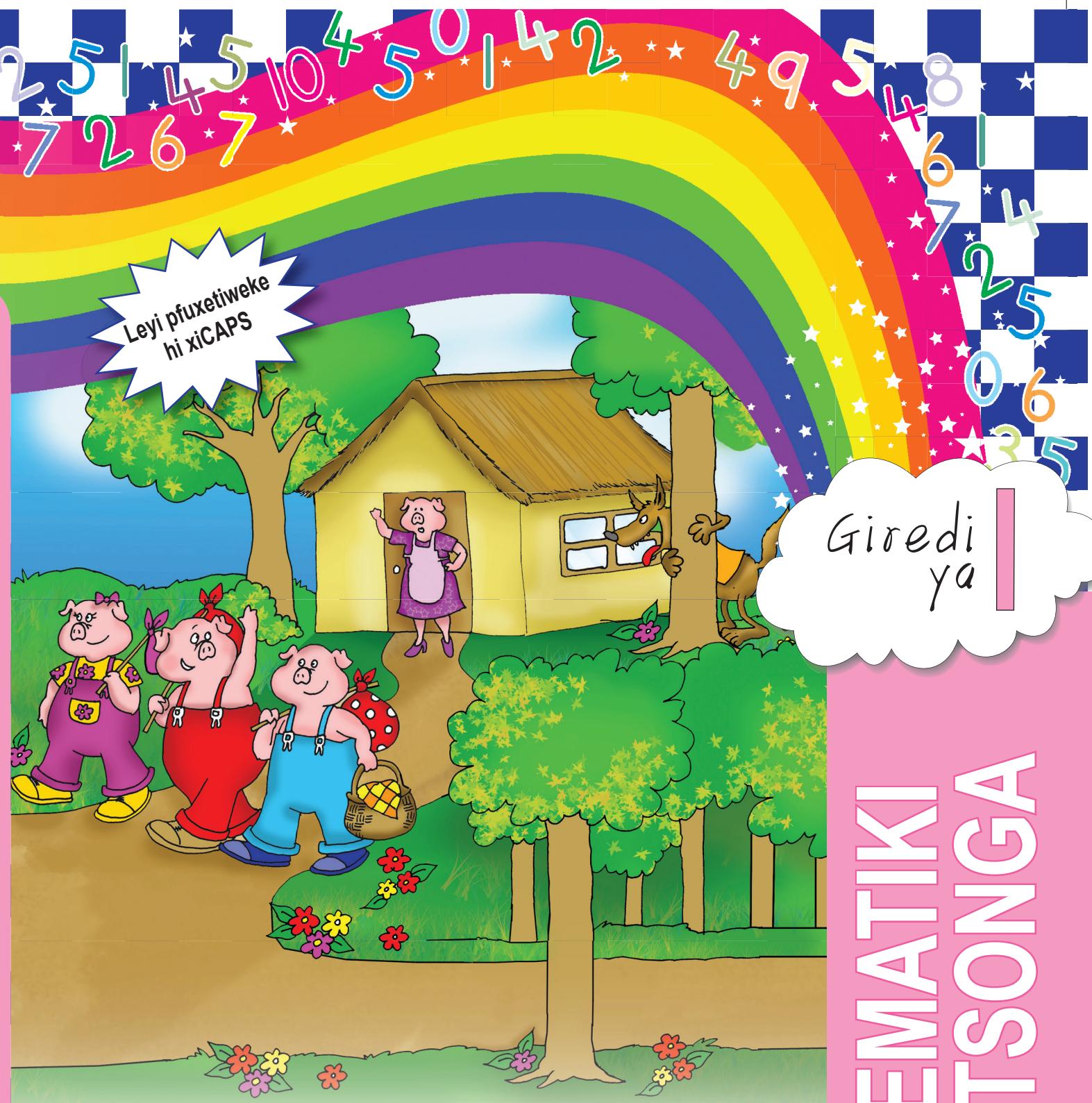


MATHEMATIKI HI XITSONGA

Buku ya 2
Tikotara ta
3 na 4



MATEMATIKI HI XITSONGA – Giredi ya | Buku ya 2

ISBN 978-1-4315-0135-9



basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Vito:

Tlilasi:



Ku dyondza hi Vumbiwa ra Riphabiliki ra Afrika-Dzonga (1996)

Vumbiwa ra Afrika-Dzonga (1996) ri na milawu ya le henhla ya tiko. Milawu leyi yi le henhla ku tlula na puresidente, yi le henhla ku tlula tihuvo na ku tlula mfumo.

Yi hlamusela ndlela leyi vanhu va tiko va faneleku khomana hiyona, timfanelo na vutihlamuleri bya vona eka vanhu van'wana. Vumbiwa ra Tiko ri kona leswaku ri kota ku sirhelela hinkwerhu ka hina sweswi na vana va hina eka minkarhi leyi taka.

Lemuka matimu ya hina.

Hi nga vu yeleli swihoxo swa nkarhi lowu nga hundza.

Vumbiwa ra hina ri hi pfuna ku anakanya no aka vumundzu ku byo antswa bya vanhu hink wavo.

Hina, vanhu va Afrika-Dzonga,
Hi lemuka ku kala vululami ka nkarhi lowu hundzeke evuton'wini bya hina;
Hi xixima lava va xanisekeke hikwalaho ko hisekela vululami na ntshunxeko etikweni rerhu;
Hi hlonipha lava va tirheke ku aka no hluvukisa tiko ra hina; naswona
Hi tshemba leswaku Afrika-Dzonga i ra hinkwavo lava tshamaka eka rona, hi hlanganile hi ku hambana-hambana ka hina.

Kutani, hi ku tirhisa vayimeri va hina lava hi tihlawuleleke vona hi ntshunxekile, hi amukela Vumbiwa leri tanahi nauw lowu kulukumba wa Riphabliki ku endlela—

Ku lulamisa ku hambanisiwa ka nkarhi lowu hundzeke no vumba rixaka leri simekiweke ehenhla ka masungulo ya swipimelo swa xidemokhirasi, vululami exikarhi ka vanhu na timfanelo ta ximunhu ta masungulo;

Ku simeka masungulo ya rixaka ra xidemokhirasi leri vekaza swilo erivaleni laha eka rona mfumo wu simekiweke ehenhla ka ku navela ka vanhu naswona vaatikito hinkwavo va sirheleriwile hi ku ringana hi nawu;

Ku antswisa xiyimo xa vutomi bya vaaka-tiko hinkwavo no humesela erivaleni vuswukoti bya munhu un'wana na un'wana na;

Ku aka Afrika-Dzonga leri vumbanke ra xidemokhirasi leri ri kotaka ku teka vutshamo bya rona lebyi faneleke tanahi tiko leri tiyimeleke endyangwini wa tinakala.

Lava timfanelo ta wena tanahi Muafrika-Dzonga u tlhela u va na vutihlamule ri byo sirhelela timfanelo ta vanhu van'wana.

Tiva Nawumbisi wa timfanelo ta wena & Nawumbisi wa Vutihlamule ri.

Xikwembu a xi sirhelele vanhu va hina.

Nkosi Sikelel' iAfrika. Morena boloka setjhaba sa heso.
God seën Suid-Afrika. God bless South Africa.
Mudzimu fhatushedza Afurika. Hosi katekisa Afrika.

ISBN 978-1-4315-0135-9



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MATHEMATICS IN XITSONGA

GRADE 1 – BOOK 2

TERMS 3 & 4

ISBN 978-1-4315-0135-9

THIS BOOK MAY NOT BE SOLD.

11th Edition

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4 5 0 2 5 1 4 5 10 4 5 0 1 4 2 4 9 5 4 8 4 6 1



Manana Angie
Motshekga, Holobye wa
Dyondzo ya Masungulo



Dkd. Reginah Mhaule
Xandla xa Holobye wa
Dyondzo ya Masungulo

Tibuku leti to tirthela ti endleriwe vana va Afrika-Dzonga ehansi ka vurhangeri bya Holobye wa Dyondzo ya Masungulo. Manana Angie Motshekga, na Xandla xa Holobye wa Dyondzo ya Masungulo. Dkd. Reginah Mhaule.

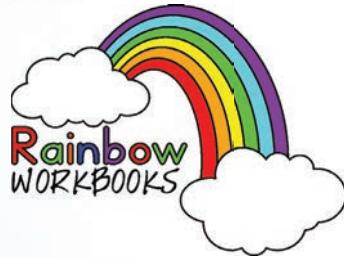
Tibuku to tirthela ta Rainbow ti vumba xiyenge xin'wana xa nt lava wa migingiriko ya Ndzawulo ya Dyondzo ya Masungulo leyi kongomisiweke eka ku antswisa matirhelo ya vadyondzi va Afrika-Dzonga eka tigiredi ta ntsevu to sungula. Tanihi xin'wana xa swilo leswi nga swirhangana eka nkunguhato wa matirhelo ya mfumo, phurojeke leyi yi humelerile hi ku seketeriwa hi timali hi Nkwama wa Timali ta Tiko. Leswi swi endlile leswaku Ndzawulo yi swi kota ku endla leswaku tibuku leti to tirthela, ti kumeka hi tindzimi hinkwato ta ximfumo handle ko hakeleriwa.

Hi tshemba leswaku tibuku leti ti ta pfuna vadyondzisi eka migingiriko ya vona yo dyondzisa ya masiku hinkwawo no tiyisia leswaku vadyondzi va vona va kota ku hetu kharikhulamu. Hi tiyisise leswaku hi letela mudyondzisi eka nghingiriko wun'wana na wun'wana hi ku katsa mifungho leyi kombisaka leswi mudyondzisi a faneleke ku endla swona.

Hi ni ntshembo wa leswaku vana va ta tiphina no tsakela ku tirha migingiriko leyi nga ebukwini loko va ri karhi va ya emahlweni no dyondza, na leswaku wena, mudyondzisi, u ta tsaka swin'we na vona.

Hi mi navelela ku humeleta, wena na vadyondzi va wena eku tirhiseni tibuku leti to tirthela.

Giredi
ya



M a t e m a t i k i

Buku leyi i ya:

XITSONGA

Buku ya

2



65



Twisia nomboro ya ||

Mpfuxeto:

Titolovete ku tsala tinomboro.



n'we

I I

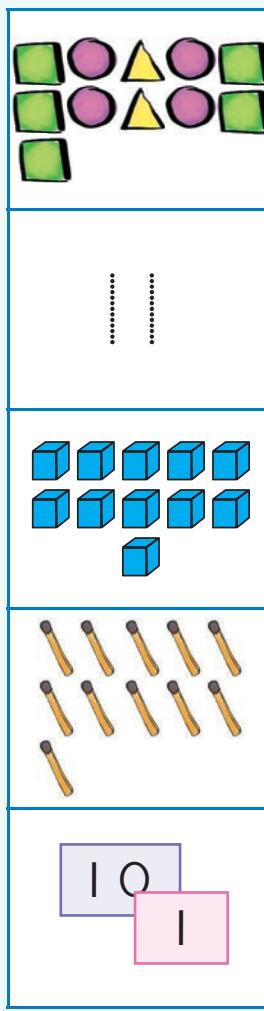
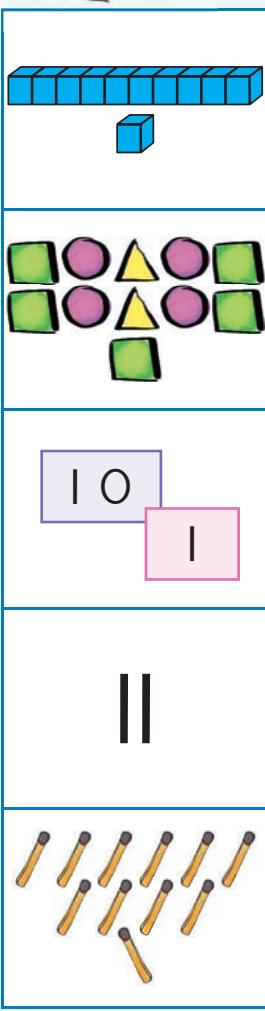


mbirhi

2 2

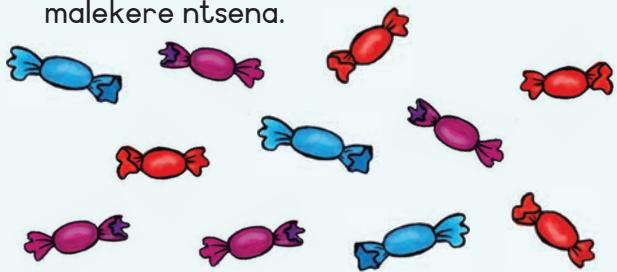


Yelanisa swifaniso.



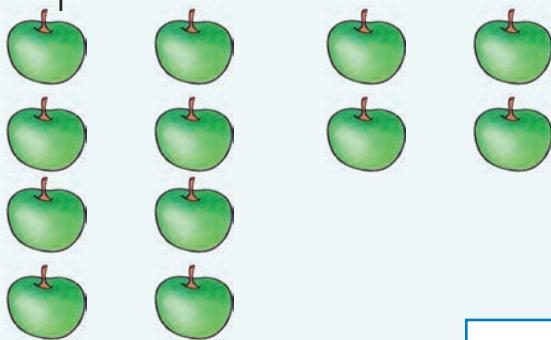
Bana swirhendzevutana
eka minchumu.

Bana xirhendzevutana eka 10 wa
malekere ntsena.



Xana ku sale malekere mangani?

Bana xirhendzevutana eka 10 wa
maapula ntsena.



Xana ku sale maapula mangani?



0 1 2 3 4 5 6 7 8 9 10



Landzelerisa tinomboro.

|| | | | | | | |

khumen',
we

|| | | | | | | |



Kholomu yin'wana
na yin'wana yi
fanele ku hlangana
yi endla ||.
Tatisa tinomboro
leti siyiweke.



3	5	4
4	5	
4		2



Dirowa || wa minchumu.



Tatisa tinomboro leti siyiweke.

1

2



4



Hlayela minchumu
leyi landzelaka.



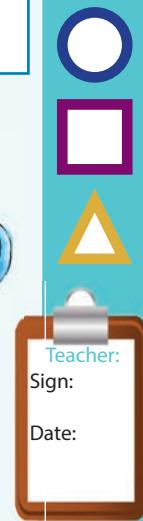
Hetisa tafula leri landzelaka. Rixaxa rin'wana na rin'wana
ri na xifaniso, nomboro na vito ra nomboro leyo.



 		khumen'we
		khumen'we
	khumen', we	

Hi kuma yini loko hi yisa ||
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka ||? _____



66



Kotara ya 3

Twisisa nomboro ya 12

Mpfuxeto:

Titolovete ku tsala tinomboro.



nharhu

3 3

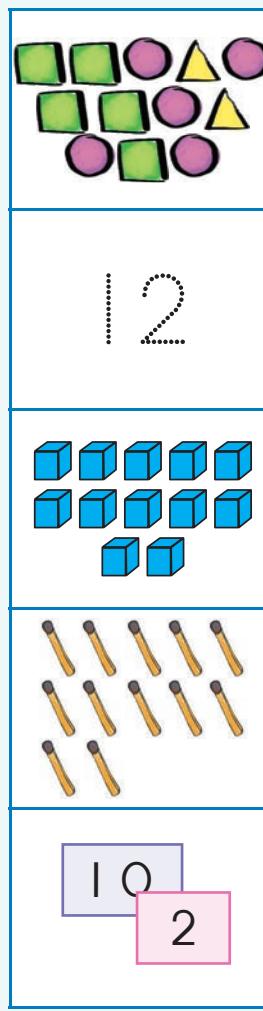
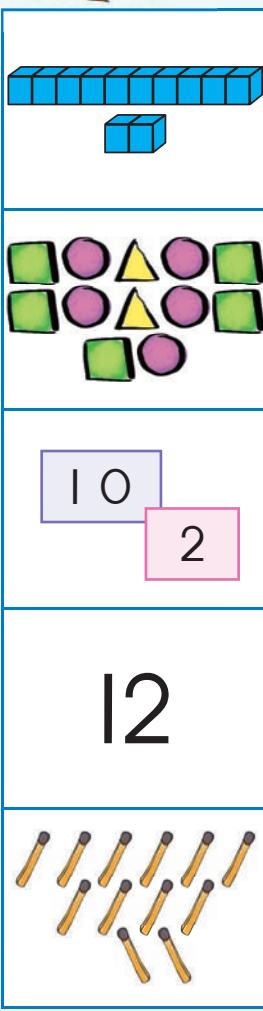


mune

4 4



Yelanisa swifaniso.



Bana swirhendzevutana
eka minchumu.

Bana xirhendzevutana eka 10 wa
tintanghu ntsena.



Xana ku sale tintanghu tingani?

Bana xirhendzevutana eka 12 wa
tinkatla ta lwandle ntsena.



Xana ku sale tinkatla ta lwandle
tingani?



4





Landzelerisa tinomboro.

12	12	12	12
----	----	----	----

khumembirhi

12	12	12	12
----	----	----	----

Kholomu yin' wana na
yin' wana yi fanele ku
hlangana yi endla 12.
Tatisa tinomboro leti
siyiweke.

	7	6
4		4
3	2	
12	12	12



Dirowa 12 wa minchumu.



Tatisa tinomboro leti siyiweke.

3			5			
8				11		



Hlayela
minchumu leyi
landzelaka.



Hetisa tafula leri landzelaka. Rixaxa rin' wana na rin' wana
ri na xifaniso, nomboro na vito ra nomboro leyo.



		khumembirhi
	12	khumembirhi
	12	
khumembirhi		

Hi kuma yini loko hi yisa 12
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka 12? _____

Teacher:
Sign:
Date:



67



Kotara ya 3

Twisisa nomboro ya 13

Mpfuxeto:

Titolovete ku tsala tinomboro.



ntlhanu

5 5

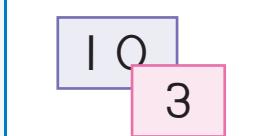
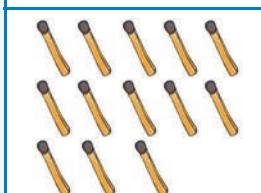
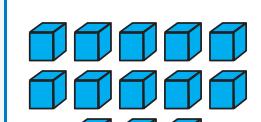
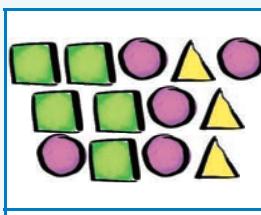
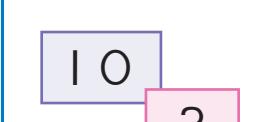
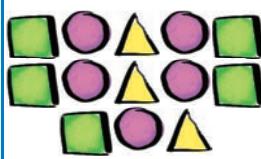
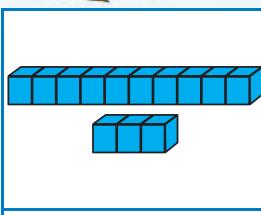


ntsevu

6 6



Yelanisa swifaniso.



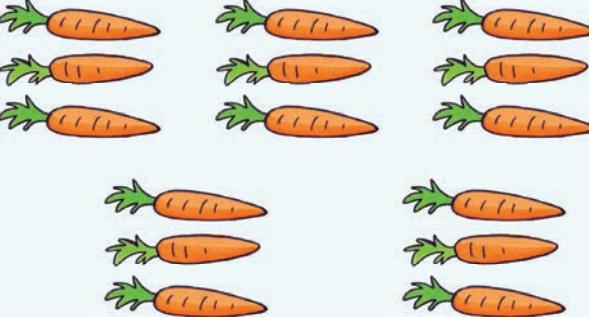
Bana swirhendzevutana
eka minchumu.

Bana xirhendzevutana eka 10 wa
swimanga ntseña.



Xana ku sale swimanga swingani?

Bana xirhendzevutana eka 13 wa
makheroti ntseña.



Xana ku sale makheroti mangani?



6

0

1

2

3

4

5

6

7

8

9

10



Landzelerisa tinomboro.

13	13	13	13
----	----	----	----

khumenharhu

13	13	13	13
----	----	----	----

Kholomu yin'wana na
yin'wana yi fanele ku
hlangana yi endla 13.
Tatasa tinomboro leti
siyiweke.

1	2	6
1		
	3	2
13	13	13



Dirowa 13 wa minchumu.

Sweswi yi dirowe hi ndlela yo hambana.

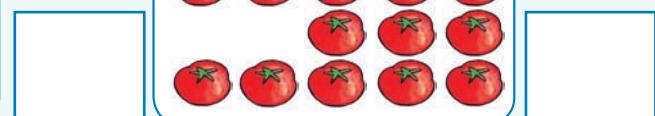
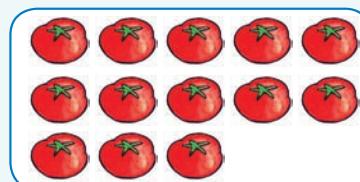


Tatasa tinomboro
leti siyiweke.

	10		12	
--	----	--	----	--



Hlayela minchumu
leyi landzelaka.



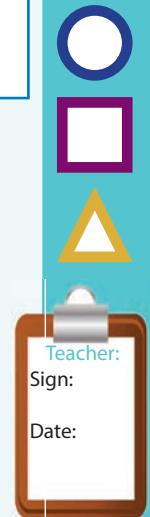
Hetisa tafula leri landzelaka. Rixaxa rin'wana na
rin'wana ri na xifaniso, nomboro na vito ra nomboro leyo.



		khumenharhu
	13	khumenharhu
13		
	khumenharhu	

Hi kuma yini loko hi yisa 13
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka 13? _____



68



Siku:

Kotara ya 3

Twisisa nomboro ya 14

Mpfuxeto:

Titolovete ku tsala tinomboro.



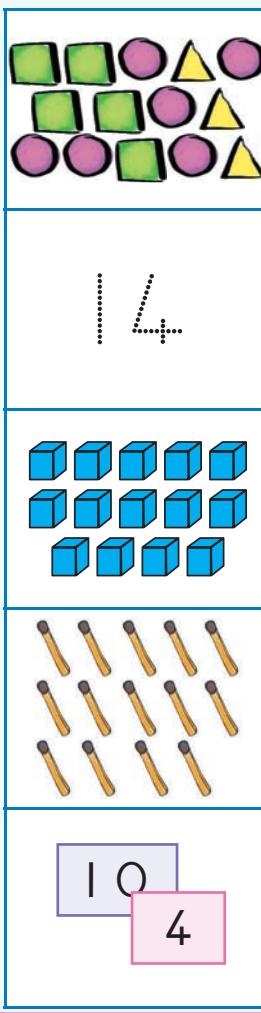
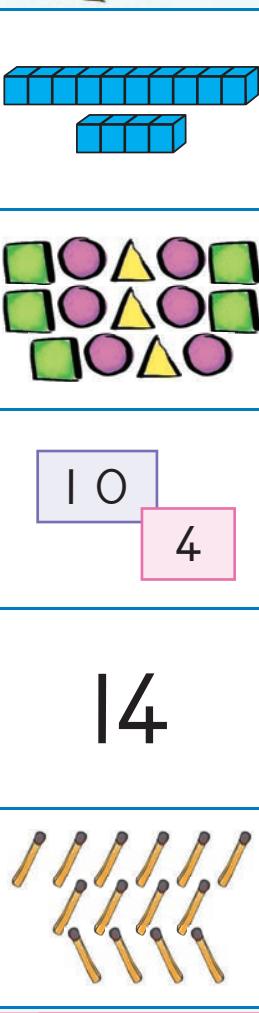
7 7



8 8



Yelanisa swifaniso.



Bana swirhendzevutana
eka minchumu.

Bana xirhendzevutana eka 10 wa
maphaphatani ntsena.



Xana ku sale maphaphatani
mangani?

Bana xirhendzevutana eka 14 wa
tirhoko ntsena.



Xana ku sale tirhoko tingani?



0

1

2

3

4

5

6

7

8

9

10



Landzelerisa tinomboro.

14	14	14	14
----	----	----	----

khumemune

14	14	14	14
----	----	----	----



Dirowa 14 wa minchumu.



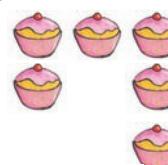
Kholomu yin'wana na
yin'wana yi fanele ku
hlangana yi endla 14.
Tatisa tinomboro leti
siyiweke.

1		2
	5	1
3	2	
14	14	14

Sweswi yi dirowe hi ndlela yo hambana.

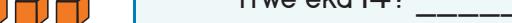
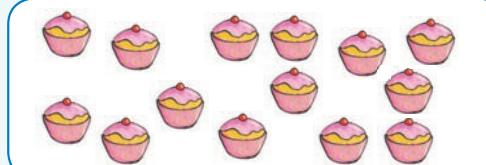
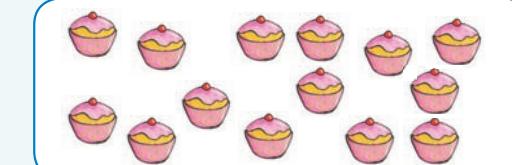


Hlayela minchumu leyi
landzelaka.



Hetisa tafula leri landzelaka. Rixaxa rin'wana na
rin'wana ri na xifaniso, nomboro na vito ra nomboro leyo.

 	14	khumemune
14		
	khumemune	

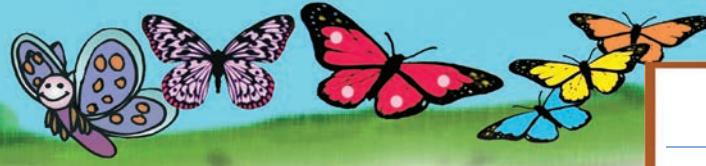


Hi kuma yini loko hi yisa 14
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka 14? _____



69



Kotara ya 3

Twisisa nomboro ya 15

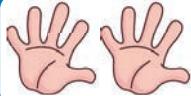
Mpfuxeto:

Titolovete ku tsala tinomboro.



kaye

q q

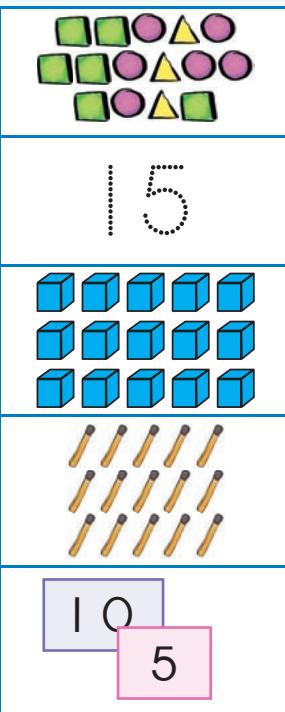
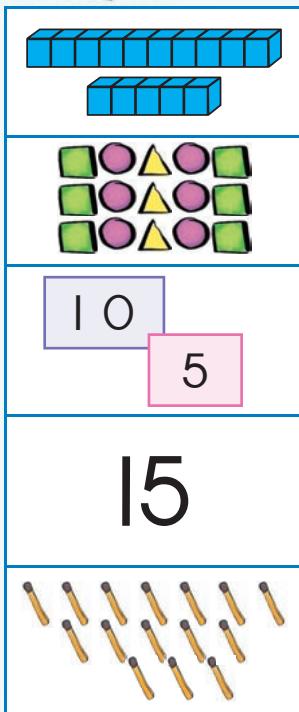


khume

10 10

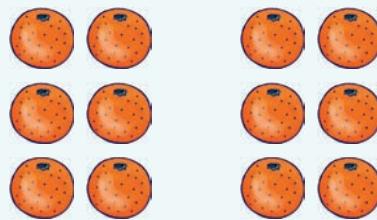


Yelanisa swifaniso.



Bana swirhendzevutana
eka minchumu.

Bana xirhendzevutana eka 10 wa
malamula ntsena.



Xana ku sale malamula mangani?

Bana xirhendzevutana eka 15 wa
tinyeleti ntsena.



Xana ku sale tinyeleti tingani?

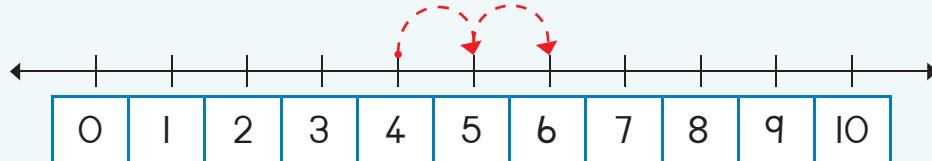


Tatisa tinhlamulo.



$7 + 2 =$





Landzelerisa tinomboro.



Dirowa 15 wa minchumu.

15	15	15	15
khumemune			
15	15	15	15



Tatisa tinomboro leti siyiweke.

Sweswi yi dirowe hi ndlela yo hambana.



Hlayela minchumu leyi landzelaka.



Hetisa tafula leri landzelaka. Rixaxa rin'wana na rin'wana
ri na xifaniso, nomboro na vito ra nomboro leyo.



	15	khumemune
		khumemune
15		

Hi kuma yini loko hi yisa 15
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka 15? _____



Teacher:
Sign:
Date:



11 12 13 14 15 16 17 18 19 20

70



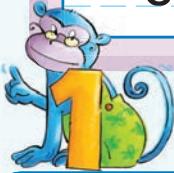
Ku hlanganisa ku fika eka 20 – Ku ya emahlweni no hlayela

Mpfxeto:

Titolovete ku tsala vito ra nomboro.

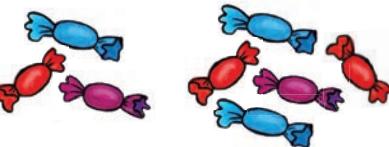
6

ntsevu



Languta xifaniso kutani u tsala xivulwa xa tinomboro xa swin'wana na swin'wana.

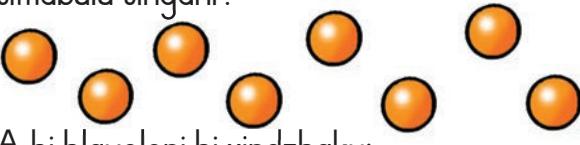
Lisa u na 3 wa malekere. Mandla u na 5 wa malekere. Xana va na malekere mangani loko ya hlanganile hinkwawo?



A hi hlayeleni:

3	...	4	5	6	7	8
<input type="text"/>		<input type="text"/>				
+		<input type="text"/>	=	<input type="text"/>		

A ndzi ri na 8 wa timabulu kutani ndzi lahlekeriwa hi 4 wa tona. Xana ndzi sale na timabulu tingani?

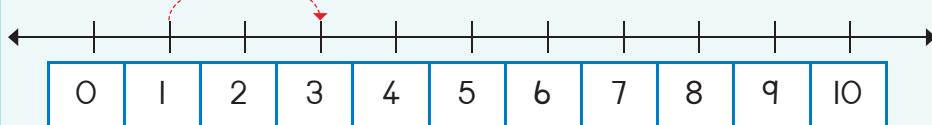


A hi hlayeleni hi xindzhaku:

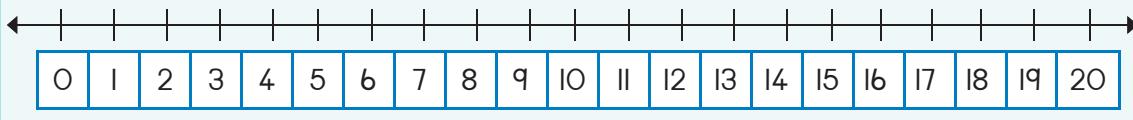
8	...	7	6	5	4
<input type="text"/>		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
-		<input type="text"/>	=	<input type="text"/>	



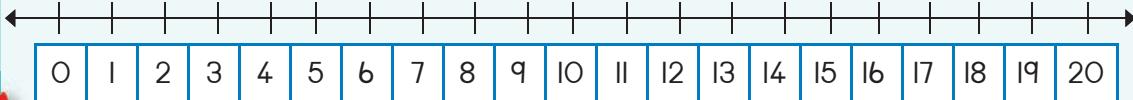
Tatisa tinhlamulo.



$1 + 2 = \boxed{}$



$13 + 2 = \boxed{}$

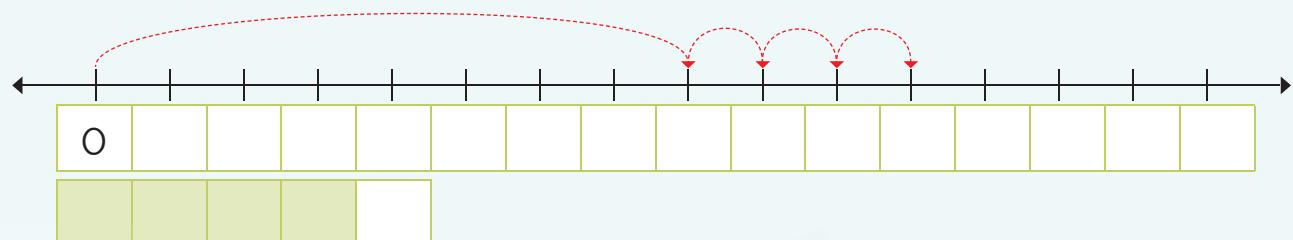
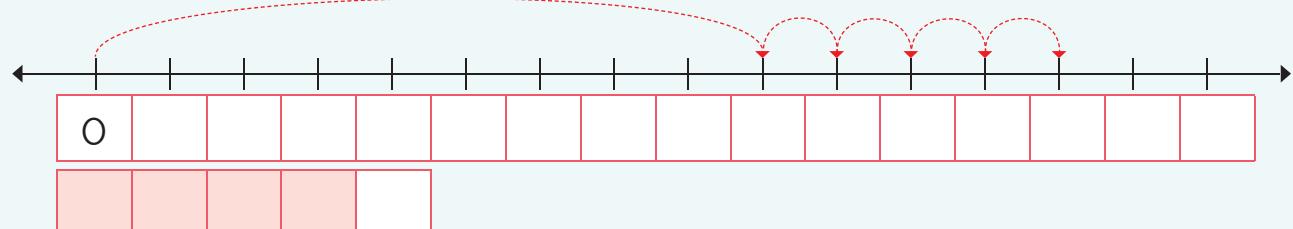
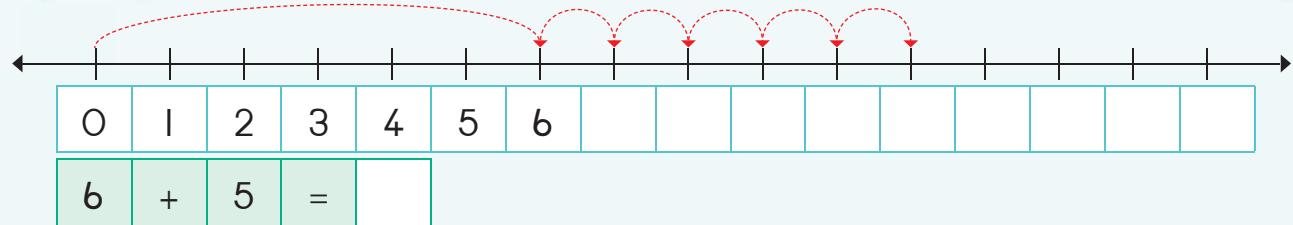


$15 + 2 = \boxed{}$





Tatisa tinomboro eka ndzhati wa mintsengo u tlhela u tsala xivulwa xa tinomboro xa ndzhati wun'wana na wun'wana wa mintsengo.



Engetela 2.

3	5
4	
2	



7	
8	
6	



Tatisa tinomboro.

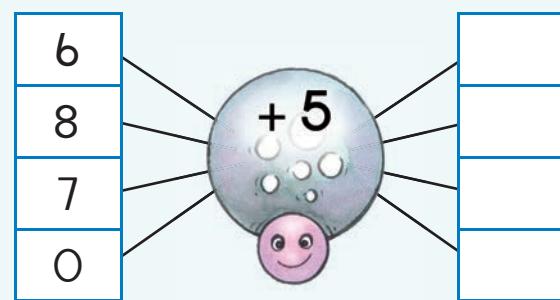


Pfuna pume ku hetisa nhlayo.

Ndzi na 7 wa malembe. Xana ndzi ta va na malembe mangani eka nkarhi wa 5 wa malembe?

7					
---	--	--	--	--	--

Ndzi ta va na _____ wa malembe.



71



Ku hlanganisa – ku aka no tlhantlhha tinomboro ku fika eka 10

Mpfuxeto:

Titolovete ku tsala vito ra nomboro.

7

nkombo



Tatisa nhlamulo.



Khalara ku kombisa leswi landzelaka.

$3 + 3 = \square$



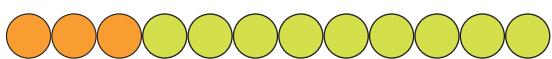
$0 + 5 = \square$



$3 + 2 + 1 = \square$



$3 + 9$



$4 + 8$



$5 + 7$



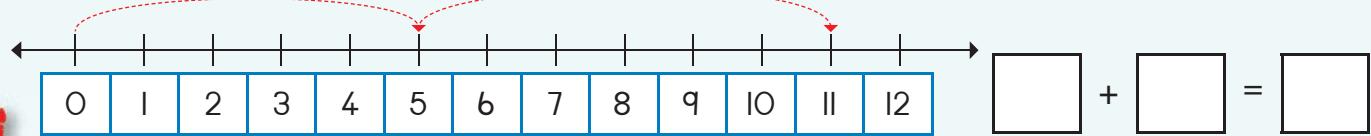
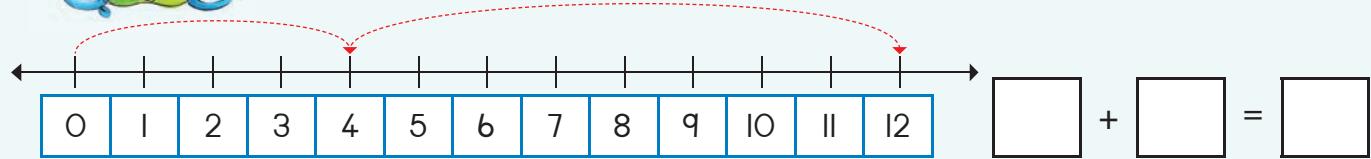
$6 + 6$



$7 + 5$

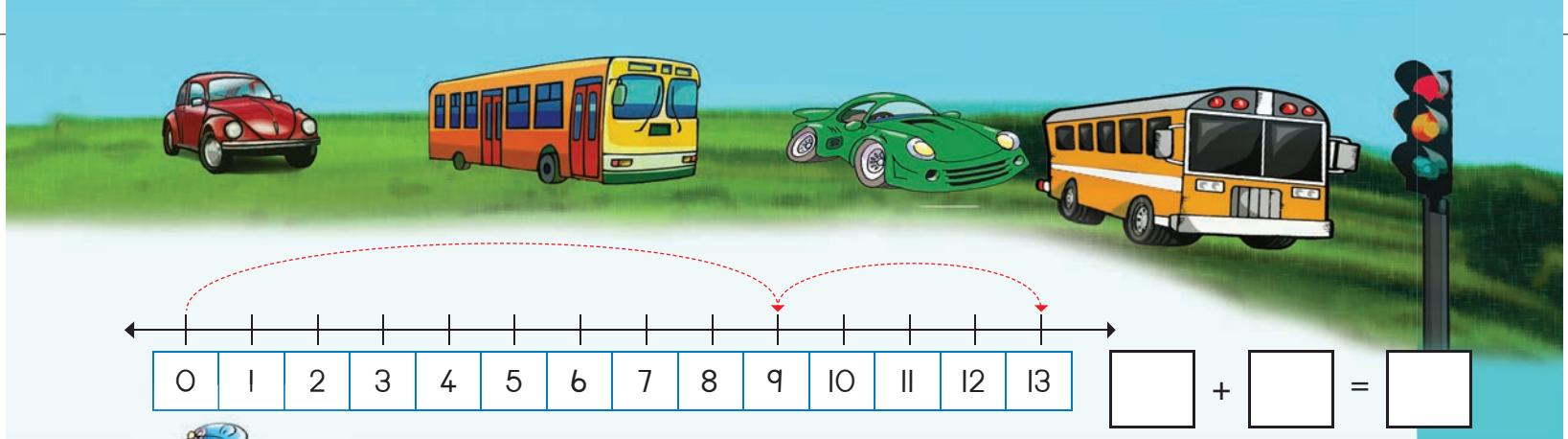


Tsala nhlayo ya:

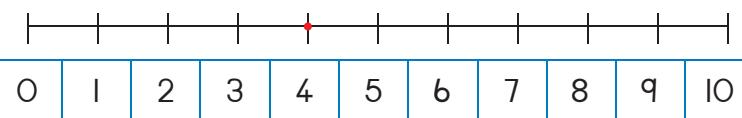


14

0 1 2 3 4 5 6 7 8 9 10



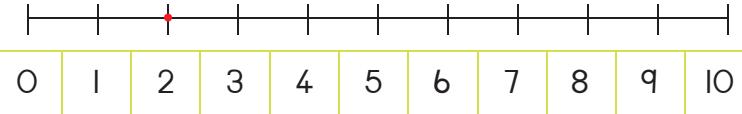
Hetisa ndzhati wa mintsengo u tlhela u tatisa nhlamulo.



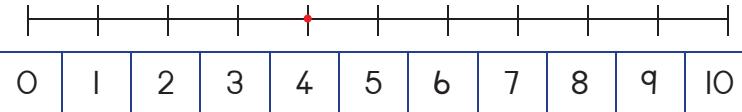
$4 + 5 + 1 = \boxed{\quad}$



$3 + 3 + 2 = \boxed{\quad}$



$2 + 4 + 3 = \boxed{\quad}$



$4 + 3 + 2 = \boxed{\quad}$



Ololoxa leswi landzelaka hi ku dirowa swifaniso.

Ndzi na 5 wa timabulu kasi munghana wa mina u na 8. Xana hi na timabulu tingani hinkwerhu ka hina?

$\boxed{\quad} + \boxed{\quad} = \boxed{\quad}$

Ndzi na 9 wa swiluva swo nyika mudyondzisi wa hina kasi munghana wa mina u na 6 wa swiluva. Xana hi kumile swiluva swingani hinkwaswo ka swona.

$\boxed{\quad} + \boxed{\quad} = \boxed{\quad}$





Ku hlanganisa – ku aka no tlhantlhha tinomboro ku fika eka 20

Mpfuxeto:

Titolovete ku tsala vito ra nomboro.

8

nhungu

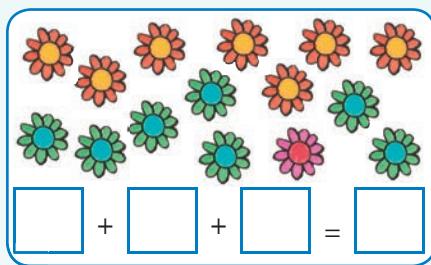
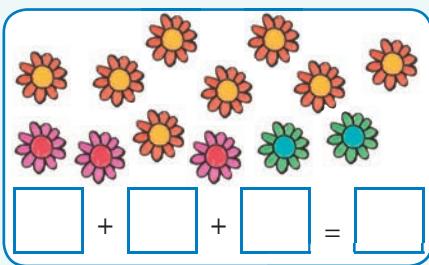
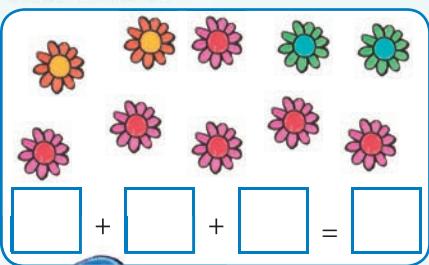


Tatisa nhlamulo.

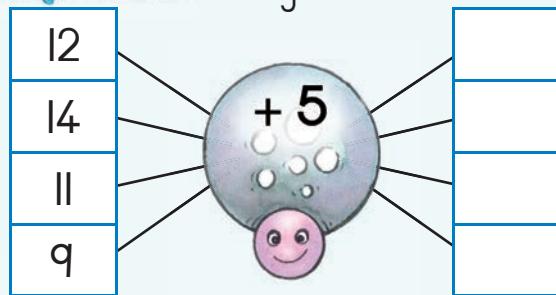
$0 + 2 =$		$2 + 2 =$		$4 + 2 =$		$6 + 2 =$		$8 + 2 =$	
$10 + 2 =$		$12 + 2 =$		$14 + 2 =$		$16 + 2 =$		$18 + 2 =$	



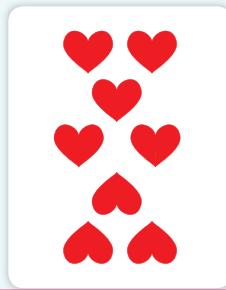
Tirhisa swiluva swa mihlovo yo hambana ku endla swivilwa swa wena swa tinomboro.



Pfuna pume ku hetisa tinhlayo.



Ku na timbilu tingani?



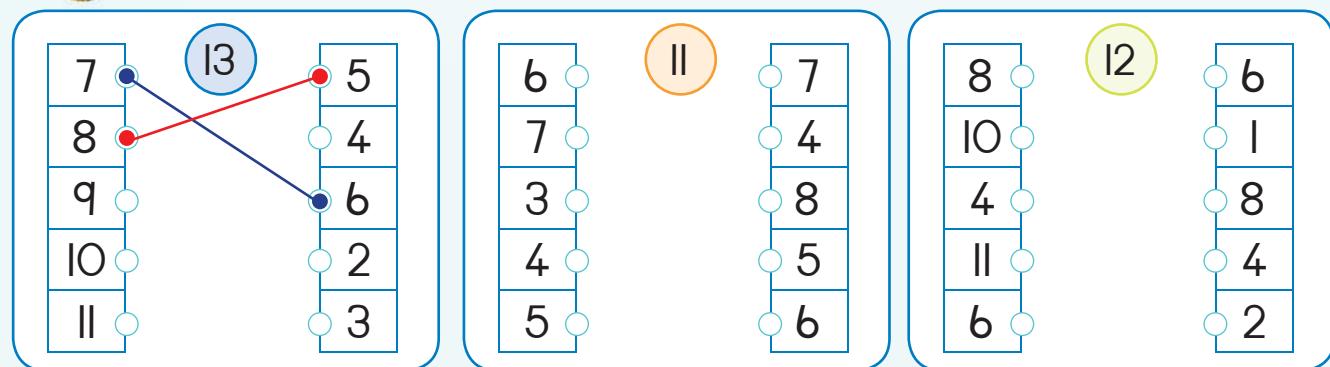
Endla nhlayo ya wena.

$$[] + [] = []$$

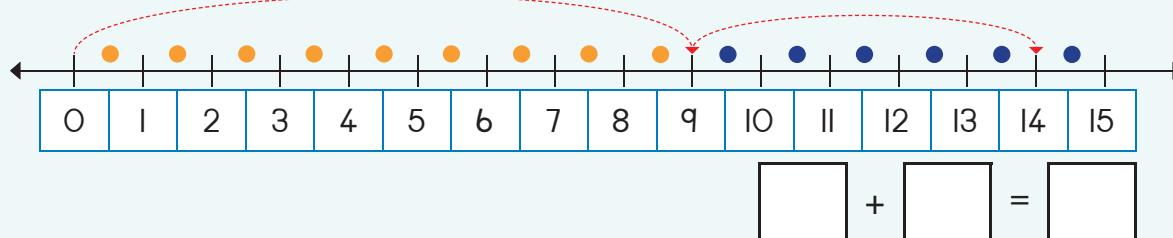
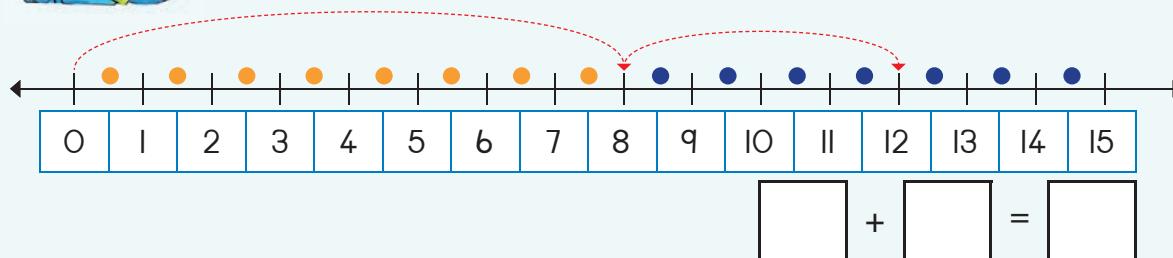




Yelanisa tiphere ta tinomboro ku endla tinomboro leti landzelaka.



Tsala xivulwa xa tinomboro xa:



Mpfuxeto:

Mpfuxeto: Khalara nhlamulo leyi nga yona.

xifaniso xa le mahlweni			
xifaniso xa le ndzhaku			
xifaniso xa le tlheloo			



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Ku hlanganisa – ku aka no tlhantlhha tinomboro ku fika eka 20

Mpfuxeto:

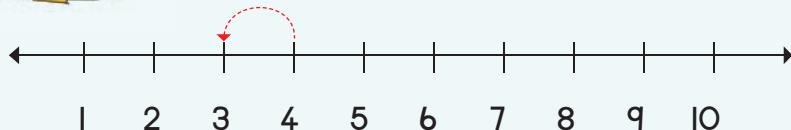
Titolovete ku tsala vito ra nomboro.

9

kaye



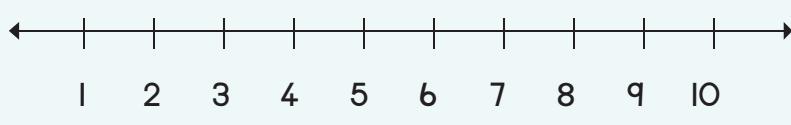
Tatisa nhlamulo.



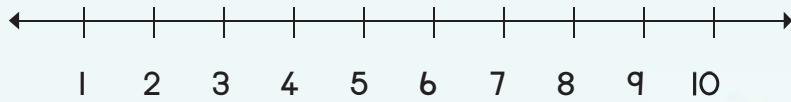
$$4 - 1 =$$



$$5 - 3 =$$



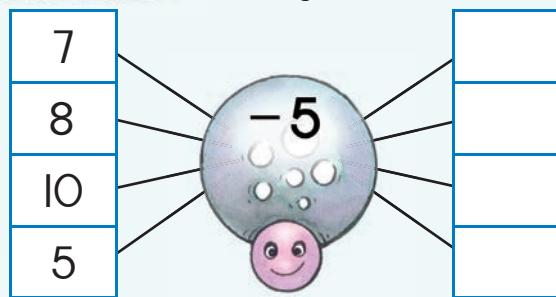
$$4 - 2 =$$



$$5 - 2 =$$



Pfuna pume ku hetisa
tinhlayo.



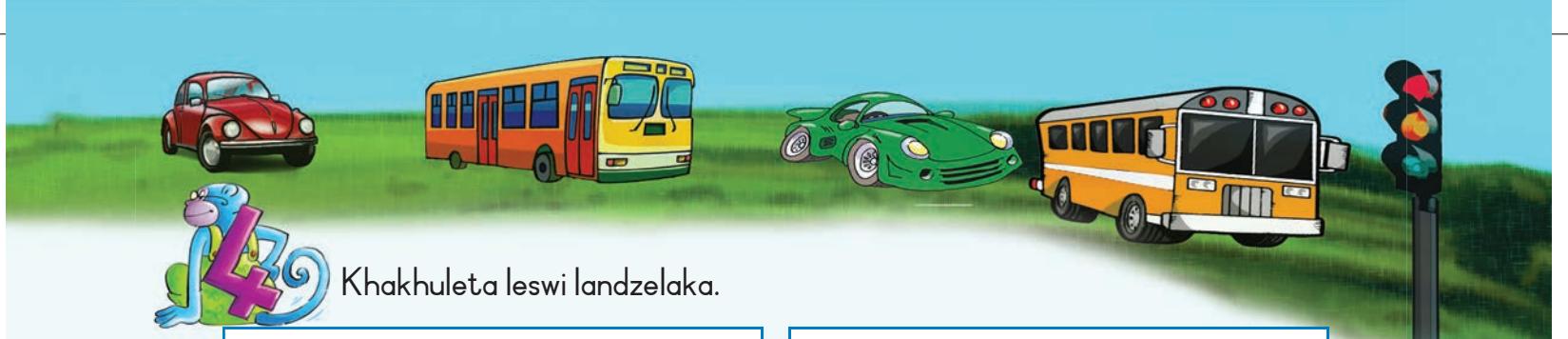
Ku na timbilu tingani?



Endla nhlayo ya wena.

$$\boxed{\quad} + \boxed{\quad} = \boxed{\quad}$$





$$\begin{array}{r} 7 \\ + \end{array} \begin{array}{r} 4 \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 7 \\ + \end{array} \begin{array}{r} 4 \\ + \end{array} \begin{array}{r} 1 \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 10 \\ + \end{array} \begin{array}{r} 1 \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 6 \\ + \end{array} \begin{array}{r} 6 \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 6 \\ + \end{array} \begin{array}{r} \boxed{} \\ + \end{array} \begin{array}{r} \boxed{} \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 10 \\ + \end{array} \begin{array}{r} \boxed{} \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 13 \\ - \end{array} \begin{array}{r} 6 \\ - \end{array} = \boxed{}$$

$$\begin{array}{r} 13 \\ - \end{array} \begin{array}{r} 3 \\ - \end{array} \begin{array}{r} 3 \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 10 \\ - \end{array} \begin{array}{r} 3 \\ - \end{array} = \boxed{}$$

$$\begin{array}{r} 12 \\ - \end{array} \begin{array}{r} 8 \\ - \end{array} = \boxed{}$$

$$\begin{array}{r} \boxed{} \\ - \end{array} \begin{array}{r} \boxed{} \\ + \end{array} \begin{array}{r} \boxed{} \\ + \end{array} = \boxed{}$$

$$\begin{array}{r} 10 \\ - \end{array} \begin{array}{r} 3 \\ - \end{array} = \boxed{}$$



Tsala tinhlamulo, u khalara u tlhela u dirowa.

$8 + 6 = \boxed{}$ Ku na tibolo tingani? $(8 + 2) + 4 = \boxed{} \rightarrow 10 + 4 = \boxed{}$	$15 - 7 = \boxed{}$ Ku na tibolo tingani? $(15 - 5) - 2 = \boxed{} \rightarrow 10 - 2 = \boxed{}$
$9 + 4 = \boxed{}$ Ku na tibolo tingani? $(9 + 1) + 3 = \boxed{} \rightarrow \boxed{} + \boxed{} = \boxed{}$	$14 - 5 = \boxed{}$ Ku na tibolo tingani? $(\quad - \quad) - 1 = \boxed{} \rightarrow 10 - 1 = \boxed{}$

Mpfuxeto:

Titlovete ku tsala vito ra nomboro.

10

khume

Teacher:
Sign:
Date:



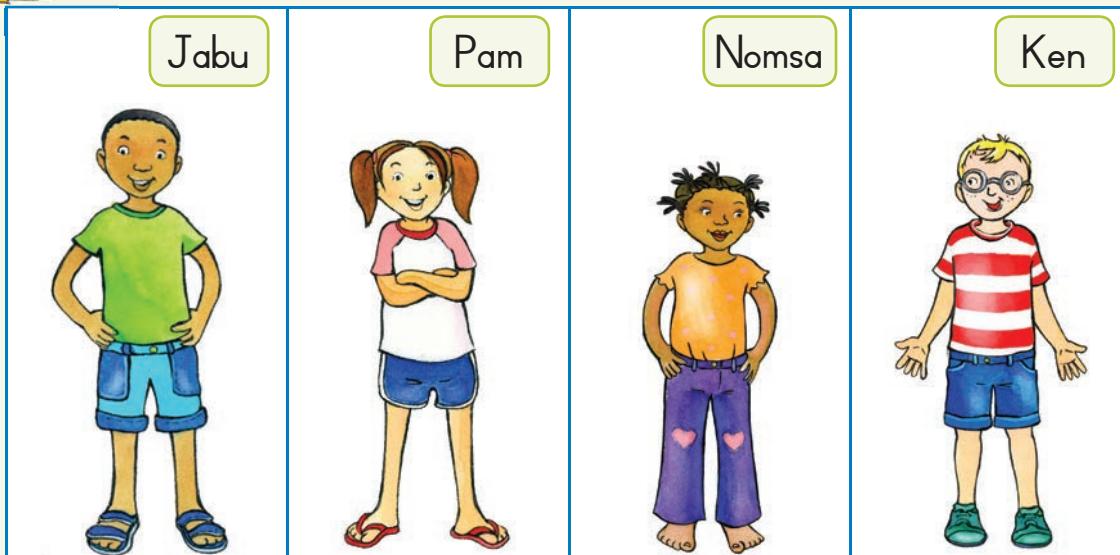
74



Ku leha

Languta xifaniso kutani u hlamula swivutiso leswi landzelaka.

Kotara ya 3



Xana i mani loyi a nga leha swinene?

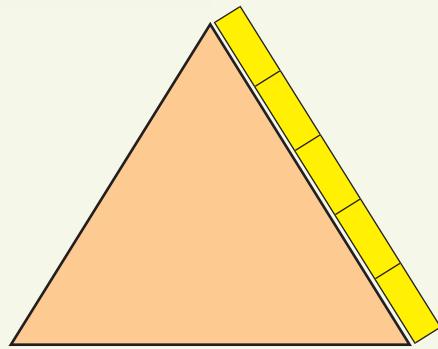
Mufana wo koma swinene i mani?

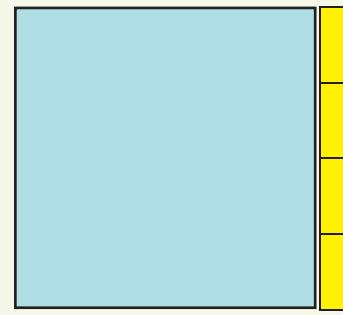
Xana i mani loyi a nga koma swinene?

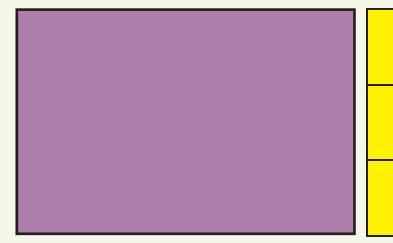
Nhwanyana wo leha swinene i mani?



Matlhelo ya swivumbeko leswi landzelaka ya lehile ku ringana tibuloko tingani?









20

0

1

2

3

4

5

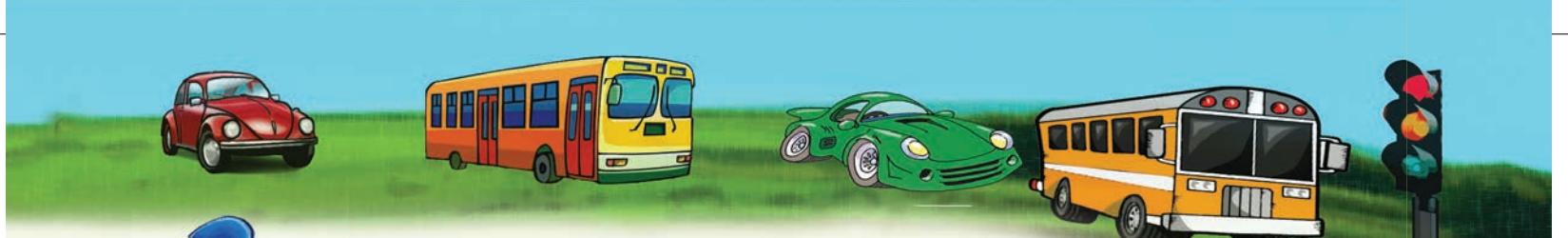
6

7

8

9

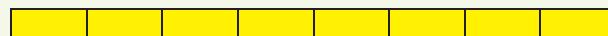
10



Hi byihi vulehi na vuanami bya tafula hi vulehi bya tibuloko na tipenisele?



Vuanami i ____ wa tibuloko.



Vulehi i ____ wa tibuloko.



Vuanami i ____ wa tibuloko.

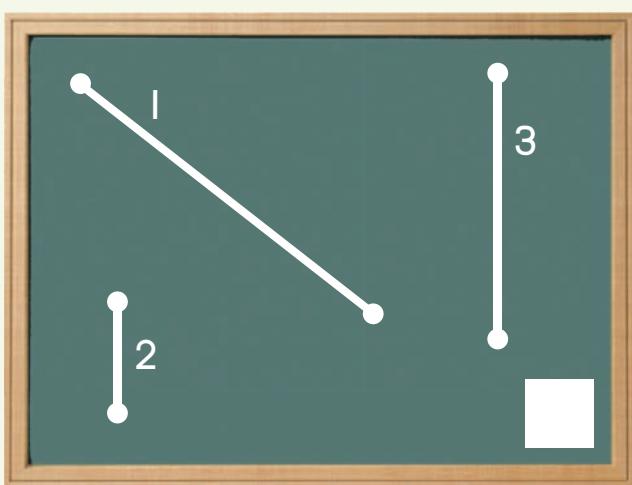
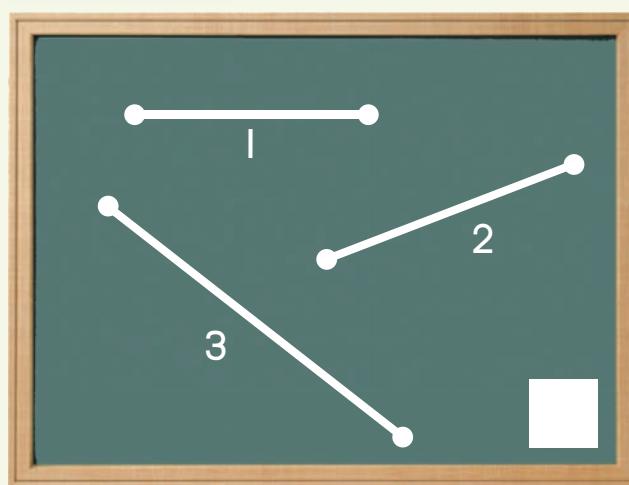


Vulehi i ____ wa tibuloko.



Hi wihi ntila wo koma swinene?
Ntila wa 1, wa 2 kumbe wa 3?

Hi wihi ntila wo leha swinene?
Ntila wa 1, wa 2 kumbe wa 3?



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Sign:
Date:





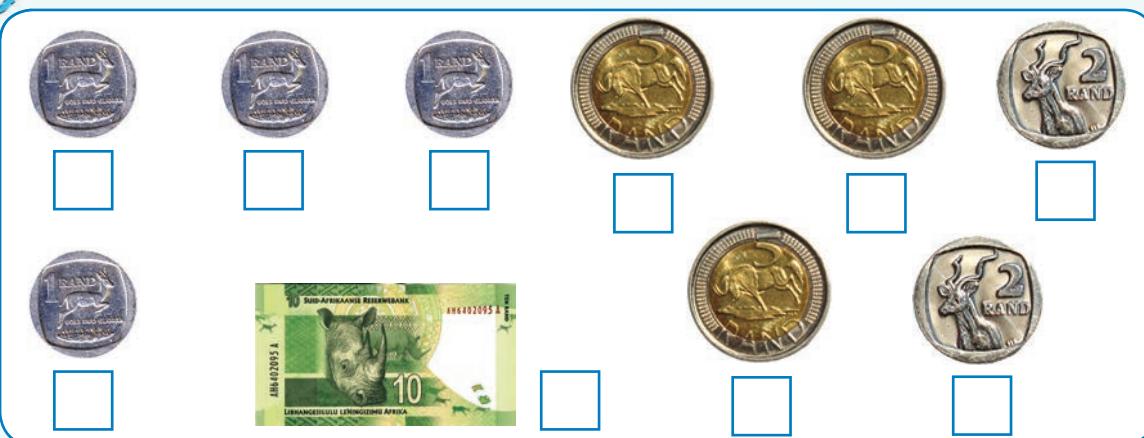
Gwajula ntsengo wa le henhla swinene eka rixaxa rin'wana na rin'wana.



Gwajula swingwece leswi ku nyikaka R10.



Gwajula swingwece leswi ku nyikaka R20.





Khakhuleta leswi landzelaka:

$R5 + RIO =$		$R5 + R2 + R8 =$		$RIO + RIO =$	
$R3 + RIO + R2 + R2 =$		$R5 + R7 + RI + R5 =$		$RIO + RI + R5 + R2 =$	



Ololoxa leswi landzelaka:

Ndzi na xingwece xa R2 na xingwece xa R5. Munghana wa mina u na swingwece swinharhu swa R2. I mani loyi a nga na mali yo tala?

Ndzi na R5 na xingwece xa RI. Munghana wa mina u na swingwece swinharhu swa R5. I mani loyi a nga na mali yo tala?



Ndzi na RI5:

Ndzi hakela

Cinci

$R4 + R7 = RII$	$R4$
$R6 + R9 =$	
$R8 + R3 =$	
$R2 + RII =$	
$R3 + R8 =$	
$R6 + R8 =$	
$RO + R2 =$	
$R2 + R2 =$	
$R4 + R2 =$	
$R6 + R2 =$	



Khakhuleta leswi landzelaka:

Ndzi na RI5. Ndzi xava phakete ra machipisi hi R6. Xana ndzi sale na mali muni?



Yisa ehansi hi R2.

RII		R4	
RI2		R6	
RIO		R8	



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Mali na cinci

Kotara ya 3



Dirowa swingwece swo endla:

R11	
RI2	
RI3	
RI4	

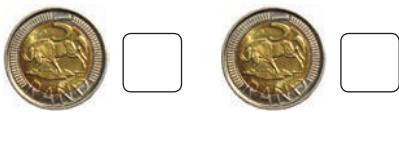


Gwajula u tlhela
u tsala nhlamulo
leyi faneleke.

$$RI8 - R8 = \boxed{}$$



$$RI2 - R2 = \boxed{}$$



$$RI5 - R4 = \boxed{}$$



$$RI4 - R7 = \boxed{}$$



Khakhuleta leswi landzelaka:

$$RI5 - RIO = \boxed{}$$

$$RIO - RI - RI - R2 = \boxed{}$$

$$R2O - R2 - R8 = \boxed{}$$

$$R5 - R4 = \boxed{}$$

$$R2O - R5 = \boxed{}$$

$$RIO - RI - R5 - R2 = \boxed{}$$



0

1

2

3

4

5

6

7

8

9

10

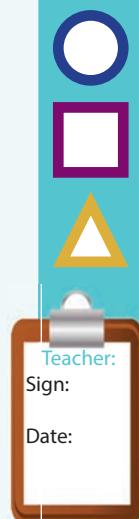


Khakhuleta leswi landzelaka:

Ndzi na R15. Ndzi xava hi:	Xana ndzi sale na mali muni?
R2 na R4 =	R9
R8 na R4 =	
R12 na R2 =	
R5 na R5 =	
R8 na R7 =	
R10 na R2 =	
R8 na R2 =	
R6 na R2 =	
R4 na R2 =	
R2 na R2 =	
R9 na R6 =	
R10 na R2 =	



Ndzi na R15. Ndzi xava xiphaketana xa malekere hi RII.
Dirowa xifaniso ku kombisa mali leyi ndzi saleke na yona.



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Mali: ku hlanganisa na ku susa

Kotara ya 3

Khakhuleta leswi landzelaka:

$RIO + R2 =$	
$RIO + R4 =$	
$R9 + R5 =$	
$RI2 + R5 =$	

$RIO + R5 =$	
$RIO + R7 =$	
$R8 + R4 =$	
$RI4 + R2 =$	

$RIO + RI =$	
$RIO + R6 =$	
$R7 + R6 =$	
$RII + R6 =$	



Khakhuleta leswi landzelaka:

$RIO - R7 =$	
$RI5 - RI =$	
$RI2 - R2 =$	
$RI5 - R6 =$	

$RIO - R2 =$	
$RI5 - RI5 =$	
$RI4 - R7 =$	
$RI2 - R9 =$	

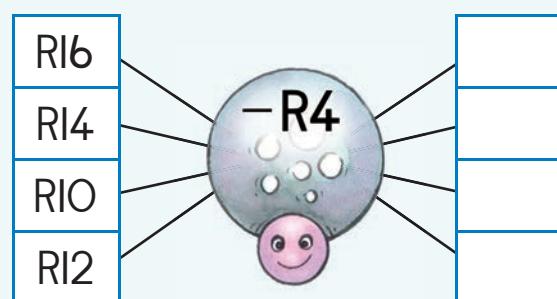
$RIO - R5 =$	
$RI5 - R2 =$	
$RI6 - R6 =$	
$RI4 - R4 =$	



Pfuna pume ku hetisa tinhlayo hinkwato.



Yisa ehansi hi R2.



$R4 - R2 =$	
-------------	--



$R7 - R2 =$	
-------------	--



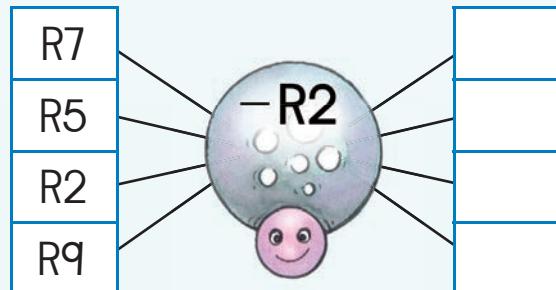
26





5

Pfuna pume ku endla tinhlayo hinkwato to susa.



6

Ololoxa leswi landzelaka.

A wu ri na RI2. Manana wa wena u ku nyikile R5. Xana u na mali muni sweswi?

U na RI9. U xava malekere hi R6. Xana u sale na mali muni?

7

Xana ndzi hlayisile mali muni?



8

Kombisa ntsengo eka ndzhati wa mintsengo u tlhela u khakhuleta nhlamulo.



Teacher:
Sign:
Date:



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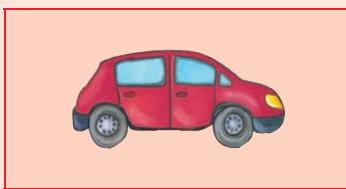
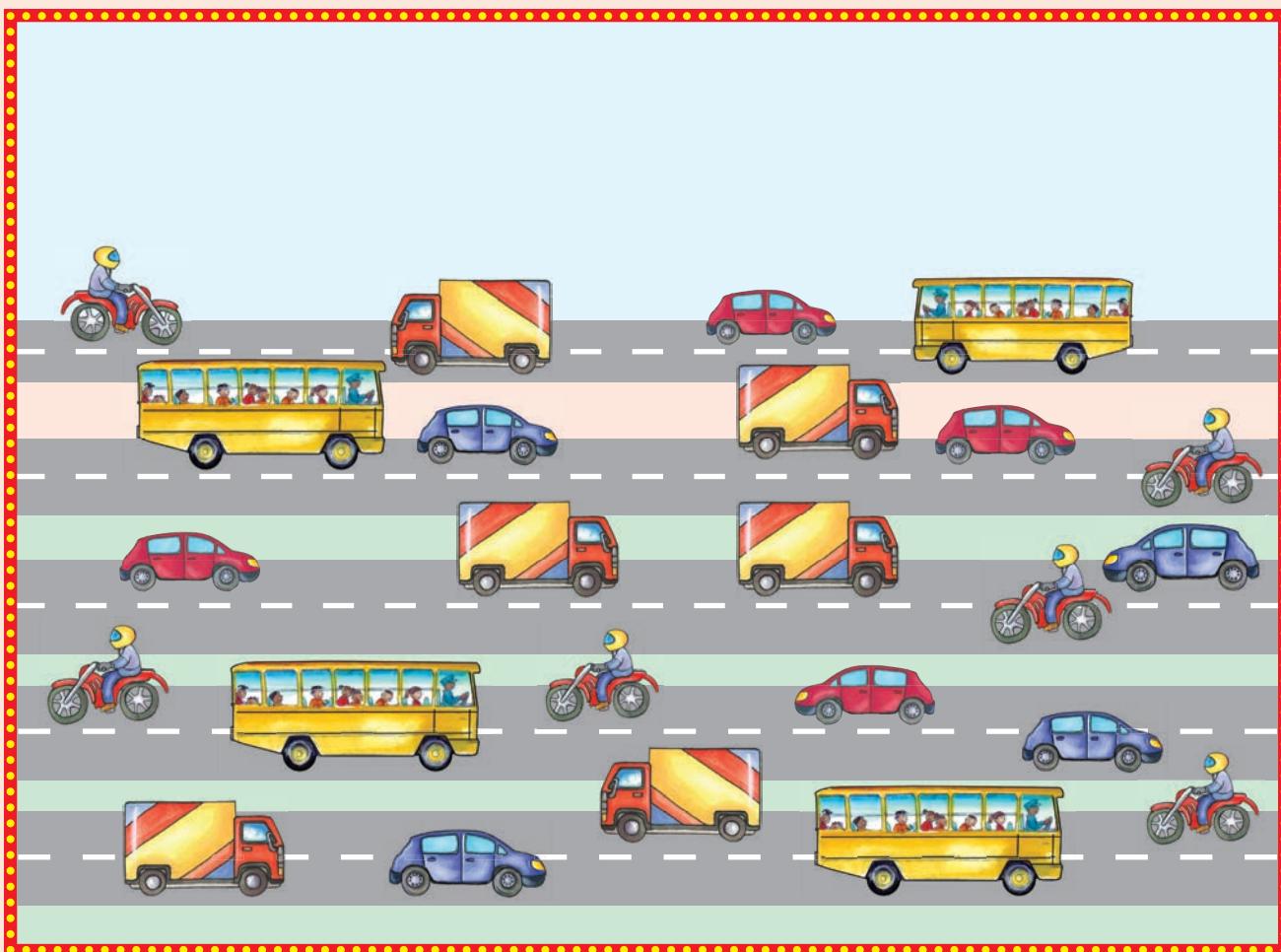
Kotara ya 3

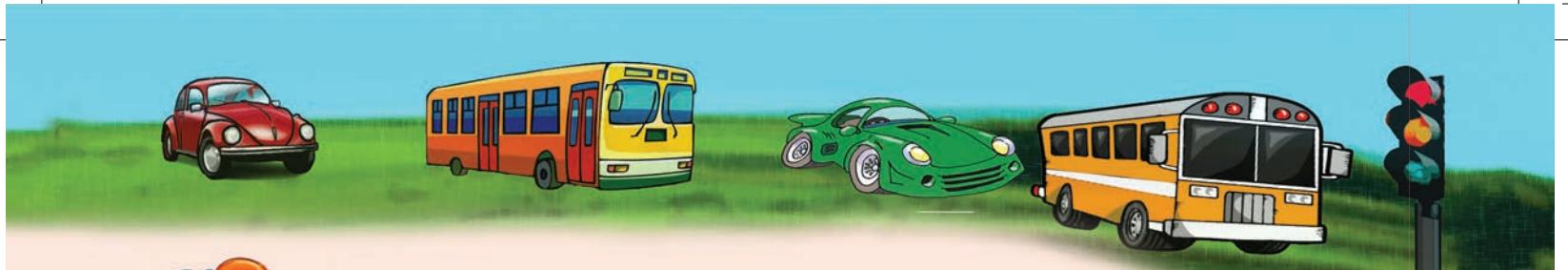


Siku:

Switiviwa

Hlayela leswaku ku na swingani swa rixaka rin'wana na rin'wana ra swifambo.





Hlayela swivumbeko u tlhela u khala chati laha hansi ku kombisa leswaku ku na swingani swa rixaka rin'wana na rin'wana. Kutani hlamlula swivutiso.



5						
4						
3						
2						
1						
	▲	●	■	◆	★	○

_____ hi yona yi nga tala ngopfu.

_____ hi byona lebyi nga talangiki.

Teacher:
Sign:
Date:



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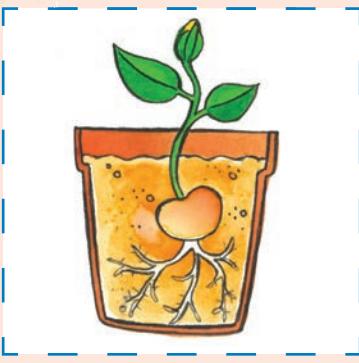


Kotara ya 3

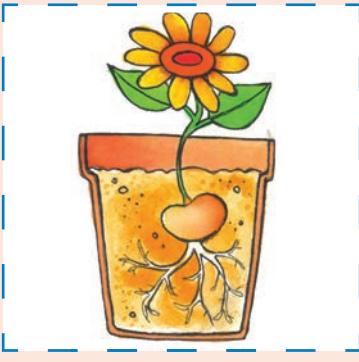
Switiviwa na nkarhi

Vulavula hi swifaniso leswi landzelaka kutani u swi veka hi ndzandzelelano lowu faneleke.

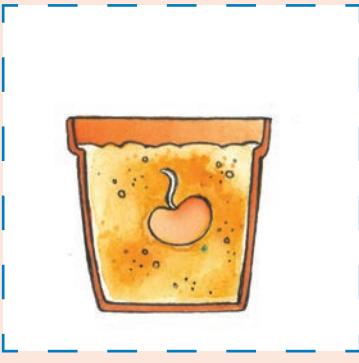
Siku:



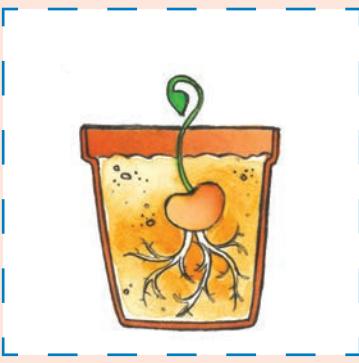
1



2



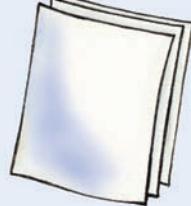
3



4



Tirhisa makhadi yo huma eka Xitsewiya xa l ku hetisa
girafu ya swifaniso.



--	--	--	--



Teacher:
Sign:
Date:



80



Mintlawa ya vuntlhhanu ku fika eka 15

Kotara ya 3

Mpfuxeto:

Titolovete ku tsala vito ra nomboro.

5

ntlhhanu



Languta xifaniso lexi landzelaka kutani u hlamula xivutiso.



Languta xifaniso. Leswi hi swona
leswi hi nga tsarisaka xiswona:

I mintlawa ya 5 yingani leyi
u nga kotaka ku yi endla?

Dirowa xifaniso xa wena laha.



Intlawa wa 5 i 5



Hlayela tintiho kutani u tsala nhlamulo ya wena.



$$5 + 5 =$$



$$5 + 5 + 5 =$$



$$5 + 5 + 5 + 5 =$$

2 wa mintlawa
ya 5 i 10



32

0

1

2

3

4

5

6

7

8

9

10

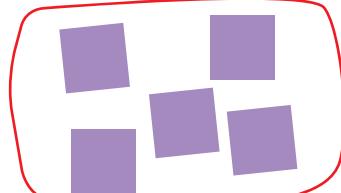


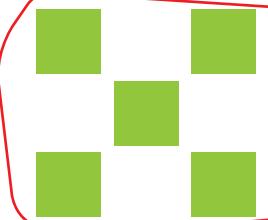
Dirowa swirhendzevutana
eka leswi landzelaka ku
endlak:



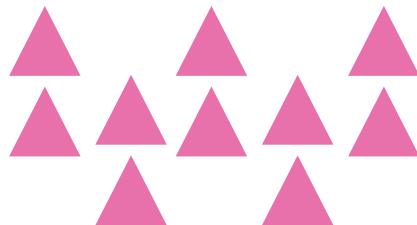
Tsala swivulwa swa
tinomboro swa leswi landzelaka.

Intlawa wa 5



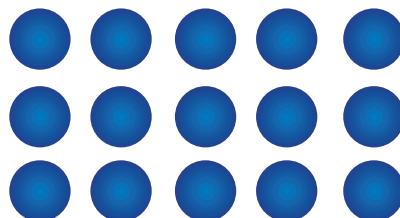


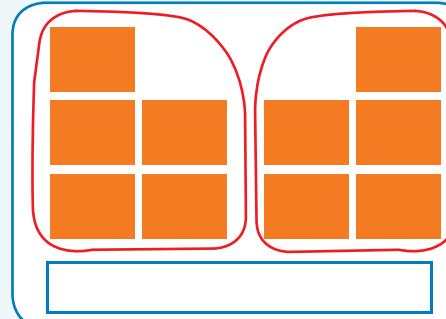
2 wa mintlawa ya 5





3 wa mintlawa ya 5





I mintlawa ya ntlanu yingani leyi u nga yi endlaka hi?

10	na	0		wa mintlawa
8	na	2		wa mintlawa
6	na	4		wa mintlawa
4	na	1		wa mintlawa
2	na	3		wa mintlawa



81



Siku:

Kotara ya 3

Vuntlhanu: ku hlanganisa ko vuyeleriwa ku fika eka 15

Mpfuxeto:

Mpfuxeto: Tatisa tinomboro leti siyiweke.



Ku na swikunwana swingani na tintiho tingani?

Tsala xivulwa xa tinomboro xa swona.



Ntlawa wa mabanana ya ntlhanu

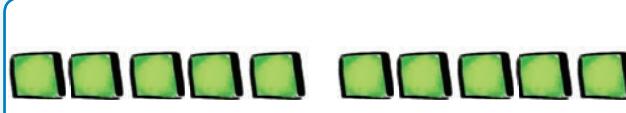
Dirowa:



Dirowa swivumbeko swa leswi landzelaka.

$$\boxed{5} + \boxed{5} = \boxed{10}$$

$$\boxed{5} + \boxed{5} + \boxed{5} = \boxed{\quad}$$





34

0 1 2 3 4 5 6 7 8 9 10

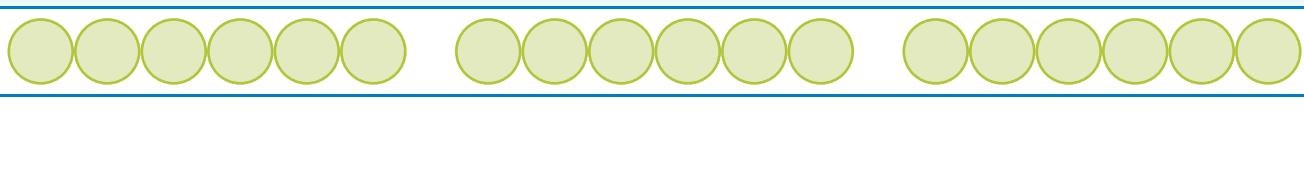


Bana xirhendzevutana u tlhela u hlayela leswaku i mintlawa yingani ya vuntlhanu leyi u nga yi endlaka eka khadi rin'wana na rin'wana.





Tsala xivulwa xa tinomboro xa:



Tirhisa mihlovo yo hambana ku kombisa tinomboro leti u nga ta ti tirhisa ku endla mintlawa ya vuntlhanu.

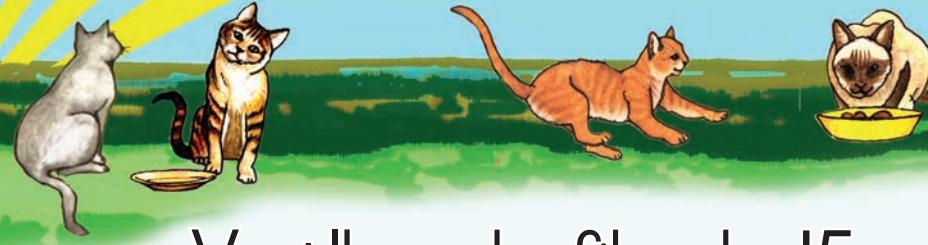
I	2	3	4	5	6	7	8	q	10
II	I2	I3	I4	I5					



Xana i mintlawa yingani ya vuntlhanu leyi u nga yi endlaka?

I	na	I4	swi endla		wa mintlawa
I3	na	2	swi endla		wa mintlawa
8	na	2	swi endla		wa mintlawa
7	na	8	swi endla		wa mintlawa
q	na	2	swi endla		wa mintlawa





Tatisa tinomboro leti siyiweke.

I		3		5		7	8	9	
II	I2								

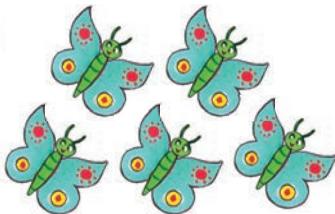
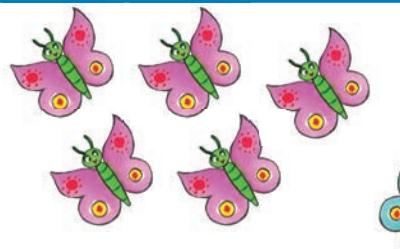
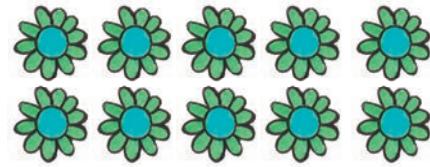


Endla mintlawa ya vuntlhanu. Xifufunhunu xin'wana na xin'wana xi na ntlawa wa mathonsi ya ntima ya ntlhanu eka rimpapa rin'wana na rin'wana.
Dirowa mathonsi lama siyiweke.





Tsala xivulwa xa tinomboro xa xin'wana na xin'wana.



Khakhuleta leswi landzelaka:

$$0 + \boxed{5} = \boxed{\quad}$$

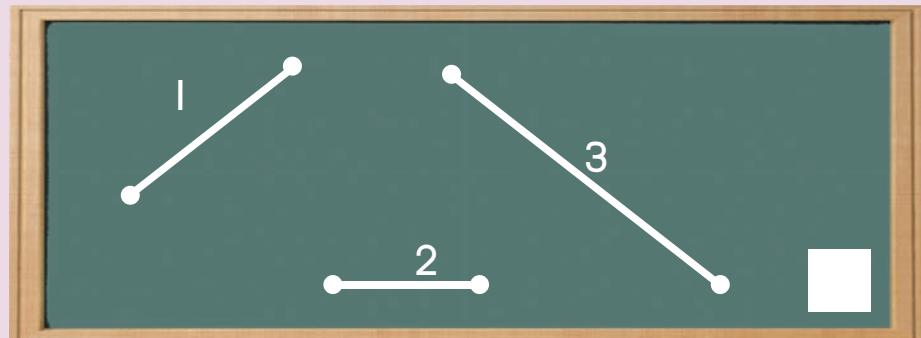
$$\boxed{5} + \boxed{5} + \boxed{5} = \boxed{\quad}$$

$$\boxed{5} + \boxed{5} = \boxed{\quad}$$

$$\boxed{5} + \boxed{5} + \boxed{5} + \boxed{5} = \boxed{\quad}$$

Mpfuxeto:

Mpfuxeto: Hi wihi ntila wo leha swinene?



Teacher: Sign:
Date:



83



Siku:

Tipatironi ta tinomboro ta vunthalhanu ku fika eka 50

Kotara ya 3

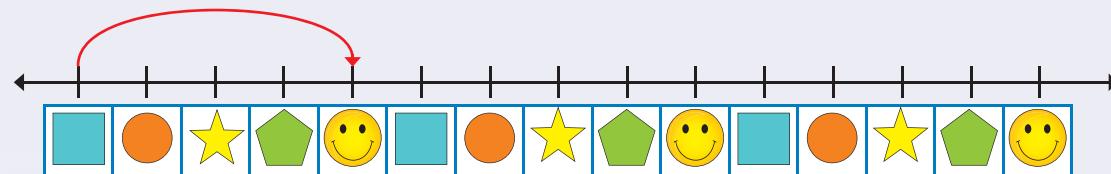


Hetisa patironi ya vunthalhanu hi ku khalara tinomboro.

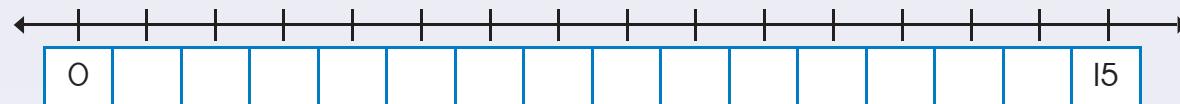
I	2	3	4	5	6	7	8	9	10
II	I2	I3	I4	I5	I6	I7	I8	I9	20
2I	22	23	24	25	26	27	28	29	30
3I	32	33	34	35	36	37	38	39	40
4I	42	43	44	45	46	47	48	49	50



Dirowa tihupu ku kombisa mintlawa ya vunthalhanu.

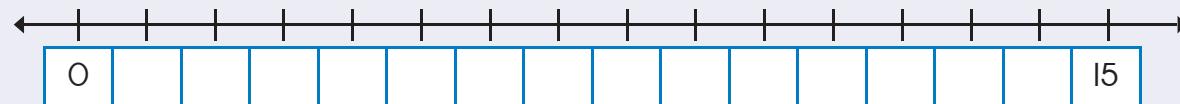


Tata tinomboro leti siyiweke u tlhela u dirowa tihupu ku kombisa mintlawa ya vunthalhanu.



Hetisa ndzhati wa mintsengo. Dirowa tihupu ku kombisa mintlawa ya vunthalhanu.

Ku na wa mintlawa ya vunthalhanu.

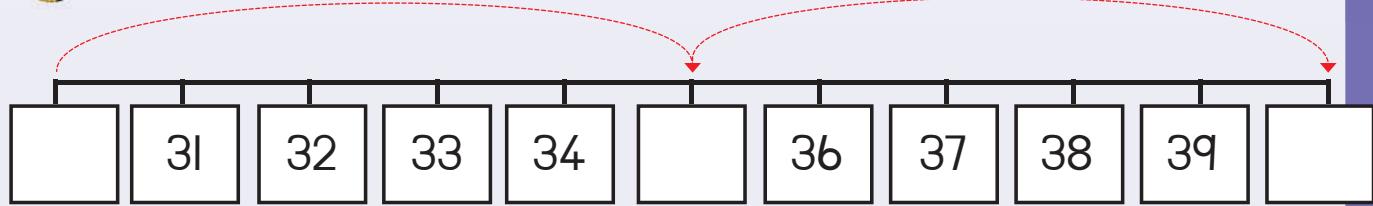


38

0 1 2 3 4 5 6 7 8 9 10

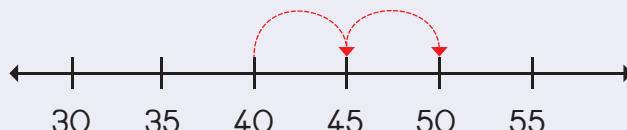


Tsema tinomboro leti siyiweke eka Xitsemiwa xa 2 kutani u ti veka eka mindzhati ya mintsengo.



Dirowa tihupu ku kombisa tinomboro leti landzelaka:

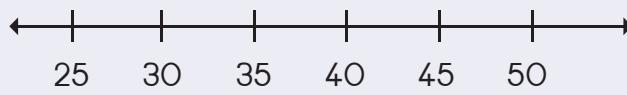
40, 45, 50



10, 15, 20



25, 30, 35



11 12 13 14 15 16 17 18 19 20



84



Siku:

Kotara ya 3



Tipatironi ta tinomboro ta vunthalhanu ku fika eka 80

Xana i mintlawa yingani ya vunthalhanu leyi u yi vonka exifanisweni lexi landzelaka?



Hetisa swifaniso leswi landzelaka ku kombisa mintlawa mimbirhi ya vunthalhanu eka buloko yin' wana na yin' wana.



40

0

1

2

3

4

5

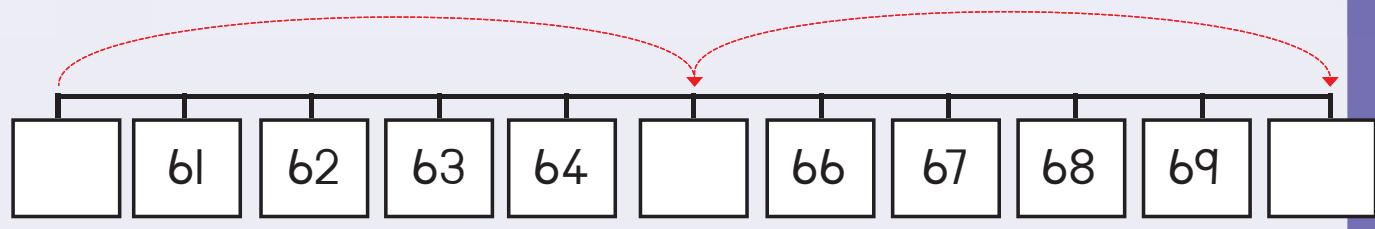
6

7

8

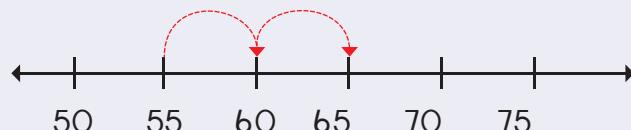
9

10

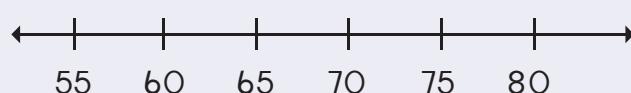


Dirowa tihupu ku kombisa leswi landzelaka:

55, 60, 65



65, 70, 75



70, 75, 80



85



Kotara ya 3

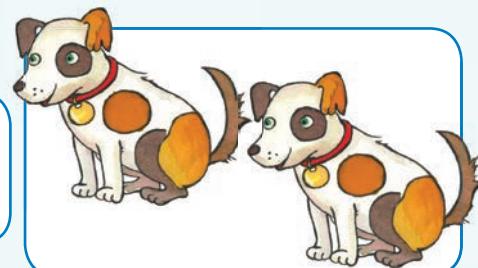
Ku mbirhihata



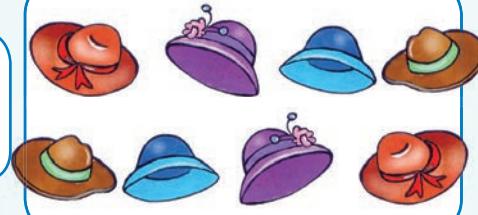
Mbirhihata swilo leswi landzelaka kutani u tatisa nhlamulo.



I loko yi
mbirhihatiwile i



4 loko yi
mbirhihatiwile i



5 loko yi
mbirhihatiwile i



Hlayela swivumbeko eka rin'wana na rin'wana ra timpapa ta phaphatani.

Hetisa swivilwa swa tinomboro leswi mbirhihatiweke.



$$7 + 7 = \text{kumbe}$$

$$7 \text{ kambirhi} =$$



$$5 + 5 = \text{kumbe}$$

$$5 \text{ kambirhi} =$$

$$2 + 2 = \text{kumbe}$$

$$2 \text{ kambirhi} =$$



42

0

1

2

3

4

5

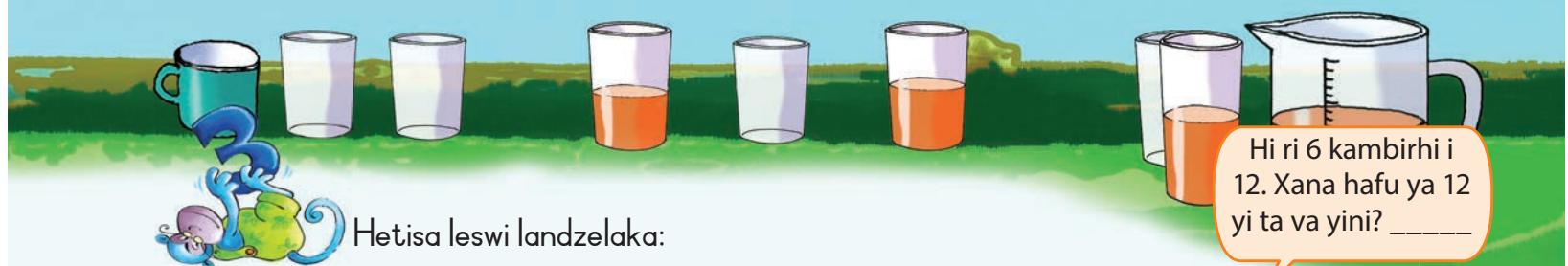
6

7

8

9

10

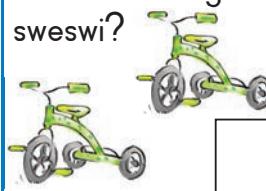


Hetisa leswi landzelaka:

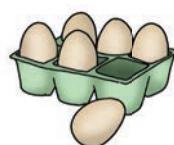
Xana u vona mavhilwa mangani?



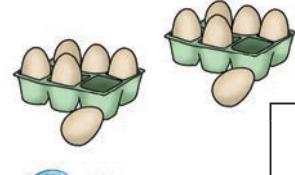
Xana u vona mavhilwa mangani sweswi?



Xana ku na matandza mangani endzeni ka bokisi?



Xana u vona matandza mangani sweswi?



Hlayela mathonsi u tlhela u ya mbirhihata.



Mbirhihata tinomboro.

	1	kambirhi →		2
	2	kambirhi →		
	3	kambirhi →		
	4	kambirhi →		
	5	kambirhi →		

4	kambirhi →	8
5	kambirhi →	
6	kambirhi →	
3	kambirhi →	
2	kambirhi →	
10	kambirhi →	



Hetisa leswi landzelaka:

Xana ku na masiku mangani evhikini?

S	M	T	W	T	F	S

Xana ku na masiku mangani eka mavhiki mambirhi?

S	M	T	W	T	F	S

Hi ri 7 kambirhi i 14.

Xana hafu ya 14 yi ta va yini?

Xana u vona minkondzo yingani?



Xana u vona minkondzo yingani sweswi?



Hi ri 2 kambirhi i 4.

Xana hafu ya 4 yi ta va yini?



Hetisa leswi landzelaka:

$2 + 2 + 1 =$	5	kumbe	$2 \text{ kambirhi} + 1 = 5$
$4 + 4 + 1 =$		kumbe	
$7 + 7 + 1 =$		kumbe	

11

12

13

14

15

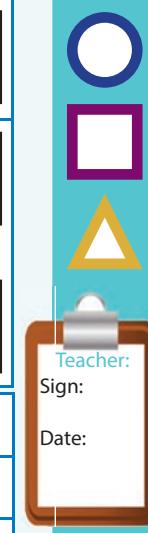
16

17

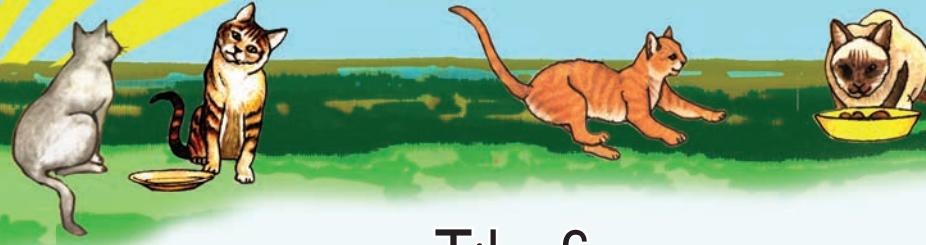
18

19

20



86

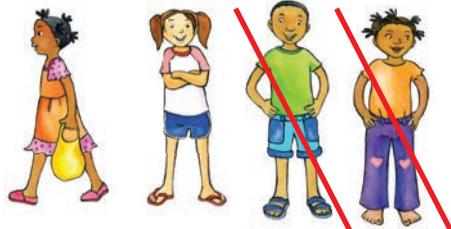


Kotara ya 3

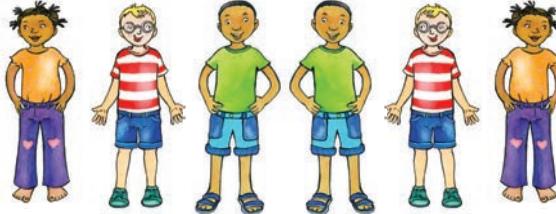
Tihafu



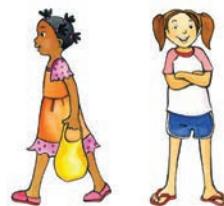
Bana nkhwati eka hafu ya vana kutani u tsala nhlamulo.



Hafu ya 4 i _____



Hafu ya 6 i _____



Hafu ya 2 i _____



Hafu ya 8 i _____



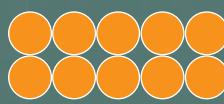
Bana nkhwati eka hafu kutani u tatisa nhlamulo.

Hafu ya 2 =



Hafu ya 8 =

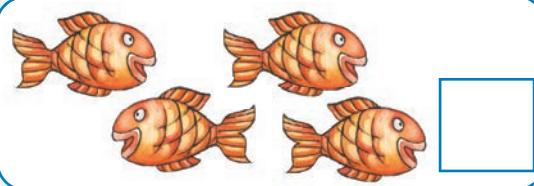
Hafu ya 4 =



Hafu ya 10 =

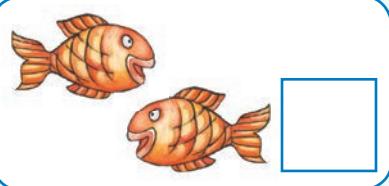


Ku na
tinhlampfi
tingani?





I yini
hafu ya
tinhlampfi?





5

Hlayela mathonsi u tlhela u ya hafula.

	2	hafu →		
	4	hafu →		
	6	hafu →		
	8	hafu →		
	10	hafu →		



Hafula tinomboro.

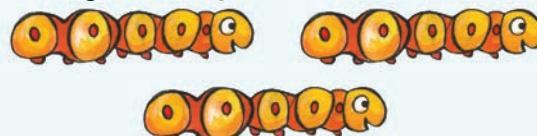
4	hafu →	2
8	hafu →	
6	hafu →	
10	hafu →	
12	hafu →	
14	hafu →	



Xana ku na swivungu swingani?



Hafu ya swivungu i:





Hlamula leswi landzelaka:

Xana ku na milenge yingani?



Ku na milenge yingani sweswi?



Hi ri hafu ya 8 i



Teacher:
Sign:
Date:



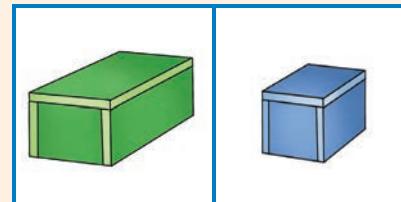
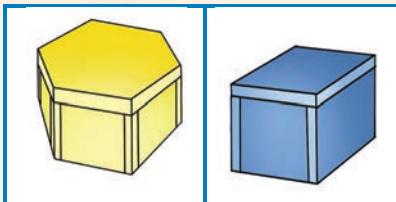


Kotara ya 3

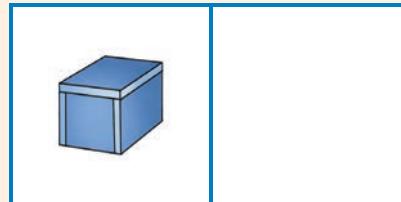
Minchumu ya 3 wa matlhelo



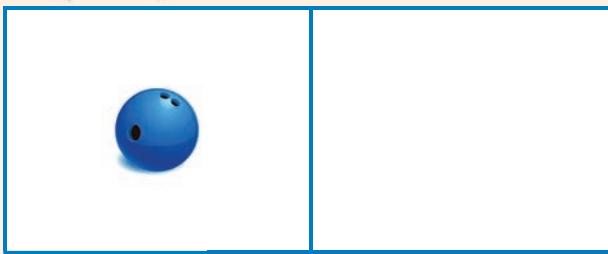
Gwajula nchumu lowutsongo.



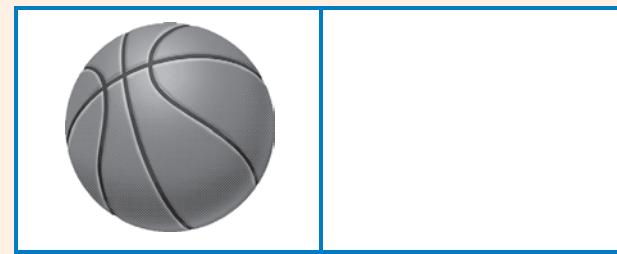
Dirowa nchumu lowukulu eka tlhelo ra xinene ra xifaniso xin'wana na xin'wana.



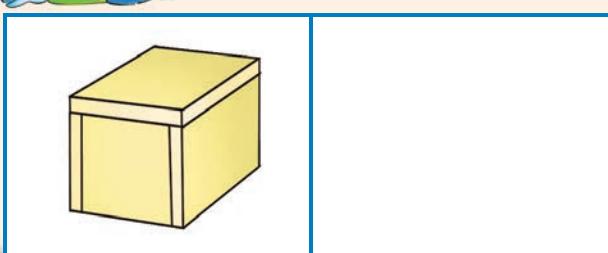
Dirowa bolo leyi nga yikulu ku tlula bolo ya wasi.



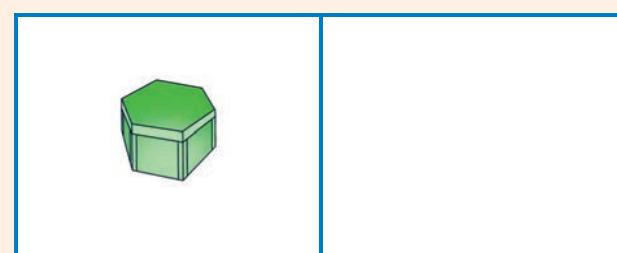
Dirowa bolo leyi nga yitsongo eka bolo ya mpunga.

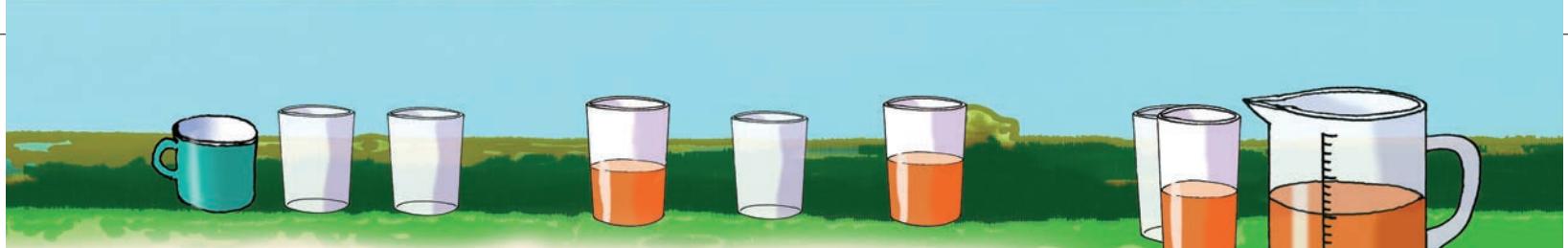


Dirowa bokisi leri nga ritsongo eka bokisi ra xitshopana.

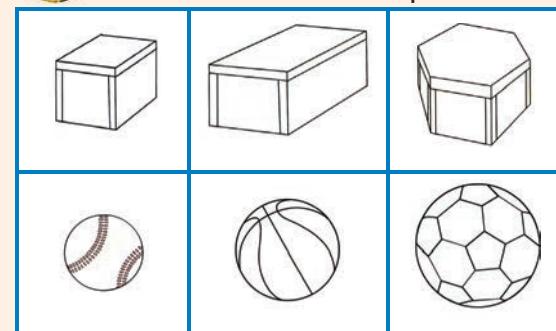


Dirowa bokisi leri nga rikulu eka bokisi ra rihlaza.

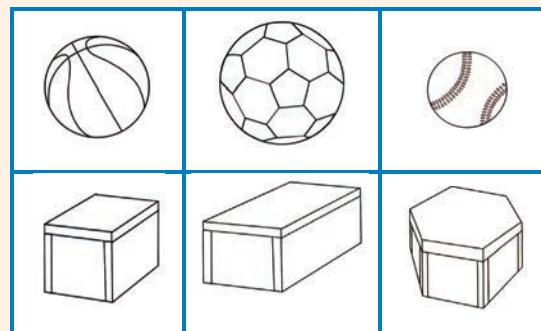




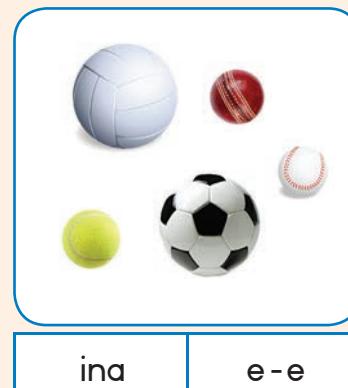
Khalara bokisi leritsongo swinene
hi muhlovo wa wasi u tlhela u
khalara bolo leyitsongo swinene
hi muhlovo wa xitshopana.



Khalara bokisi lerikulu
swinene hi muhlovo wa pinki u tlhela
u khalara bolo leyikulu swinene hi
muhlovo wo tshwuka.



Xana u nga aka
khokholo hi swilo
leswi landzelaka?
Khalara ina kumbe
e-e.



Tsema u tlhela u namarheta swifaniso swo huma eka
magazini kumbe phephahungu ku endla makhokholo
ya wena mambirhi.

Tsundzuka leswaku
makhokholo ya fanele ku
balansa.





Siku:

Kotara ya 3



Xana minchumu leyi yi ta khunguluka kumbe yi ta rheta?
Khalara nhlamulo leyi nga yona.



khunguluka	rheta
------------	-------



khunguluka	rheta
------------	-------



Leswi landzelaka swa koteka?
Khalara nhlamulo leyi faneleke.

khunguluka	rheta
------------	-------

khunguluka	rheta
------------	-------

ina	e - e
-----	-------

ina	e - e
-----	-------

ina	e - e
-----	-------





Hlawula minchumu leyi landzelaka hi ku yi dirowa endzeni ka buloko leyi faneleke.

	Tibolo	Mabokisi
--	--------	----------



Hlawula minchumu ku ya hi tisayizi hi ku yi dirowa.

	Tibolo letitsongo	Mabokisi lamatsongo
	Tibolo letikulu	Mabokisi lamakulu



8q



Siku:

Kotara ya 3

Tipatironi ta jometiri

Mpfuxeto:

Dirowa leswi landzelaka:

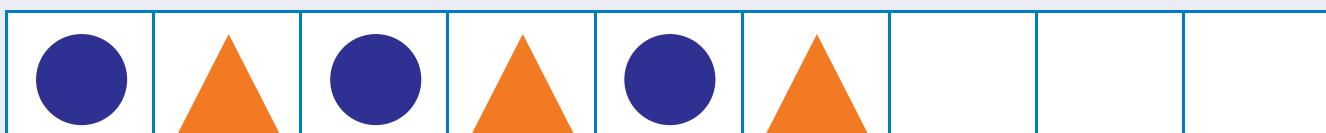
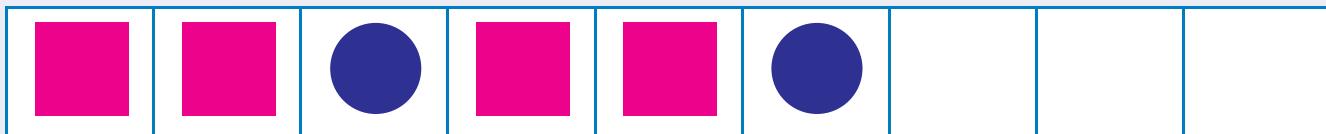
xirhendzevutana

xikwere

yinhlamune



Hetisa patironi.



50

0

1

2

3

4

5

6

7

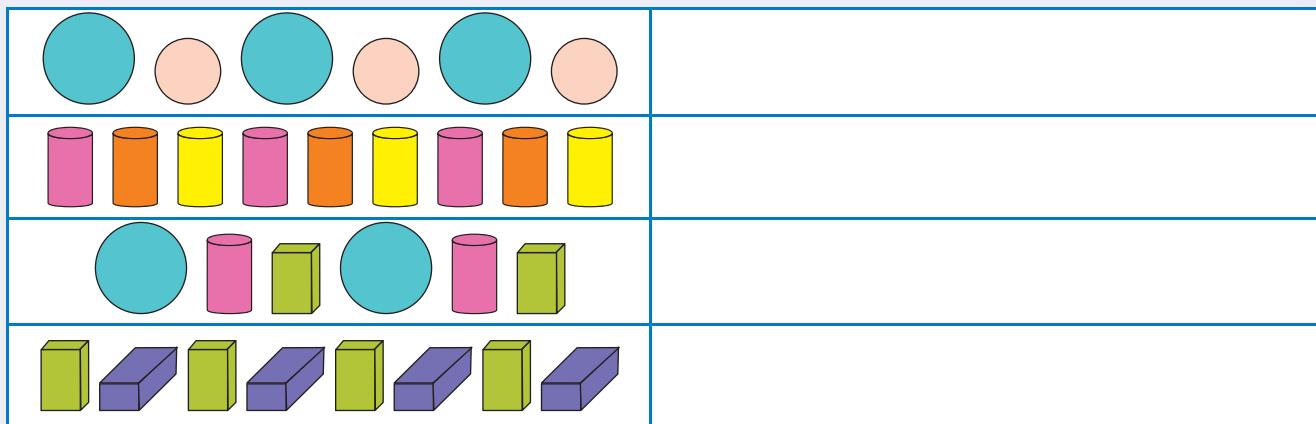
8

9

10



Dirowa ku ya emahlweni na patironi.



Dirowa patironi ya wena.



Namarheta swifaniso ku endla patironi ya wena.

--	--	--	--	--	--	--	--	--	--	--	--	--



Hetisa patironi.

A	B	C	A	B	C				A	B	C
---	---	---	---	---	---	--	--	--	---	---	---



90



Kotara ya 3

Mintlawa ya mbirhi ku fika eka 15



Tsala vito ra mfungho lowu wa nomboro.

2

mbirhi



Hlamula swivutiso.



Xana u vona tiphengwini tingani?

Xana u vona tiphere tingani ta milenge?

Ti tsale tanihi xivulwa xa tinomboro:



Hlamula swivutiso.

Xana u vona tibuku tingani?



Xana ndzi nga endla mintlawa ya mbirhi yingani?

Yi tsale tanihi xivulwa xa tinomboro:



Tsala vito ra mfungho lowu wa nomboro.

4



Hlayela timpapa u tlhela u tatisa nhlamulo.



$$2 + 2 =$$



$$2 + 2 + 2 =$$



$$2 + 2 + 2 + 2 =$$

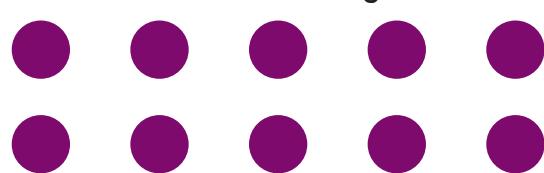




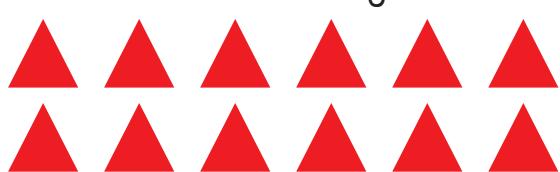
4 wa mintlawa ya 2



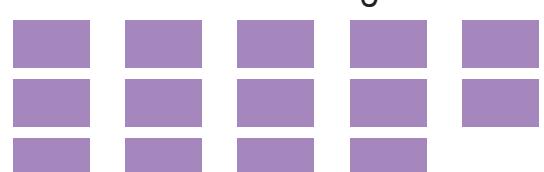
5 wa mintlawa ya 2



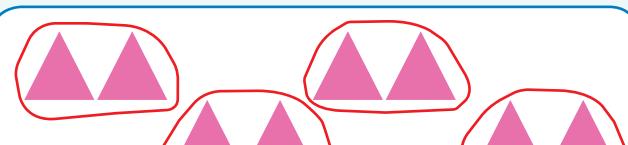
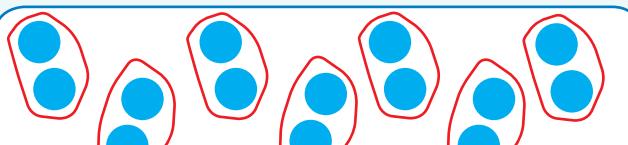
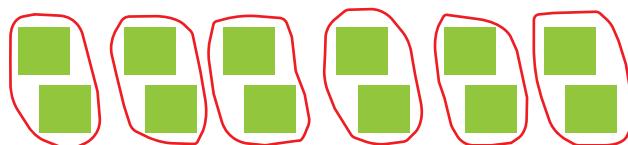
6 wa mintlawa ya 2



7 wa mintlawa ya 2



Tsala xivulwa xa tinomboro xa leswi landzelaka.



Xana ku na mintlawa ya mbirhi yingani leyti u nga kotaka ku yi endla?

I3 na I swi ta endla	wa mintlawa
II na I swi ta endla	wa mintlawa
9 na I swi ta endla	wa mintlawa
7 na I swi ta endla	wa mintlawa

I2 na I swi ta endla	wa mintlawa
5 na I swi ta endla	wa mintlawa
I na I swi ta endla	wa mintlawa
IO na IO swi ta endla	wa mintlawa

Teacher: _____
Sign: _____
Date: _____

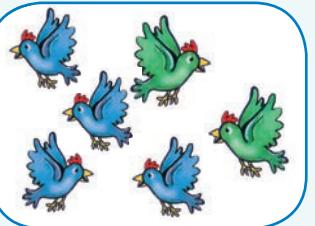
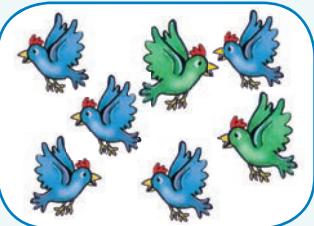
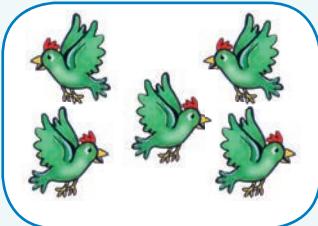
q |



Ku hlanganisa ko vuyeleta mbirhi ku fika eka 15



Xana ku na milenge yingani?



U yi hlayele hi ndlela yihi?



Dirowa swivumbeko ku kombisa leswi landzelaka:

$$2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$



$$2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$

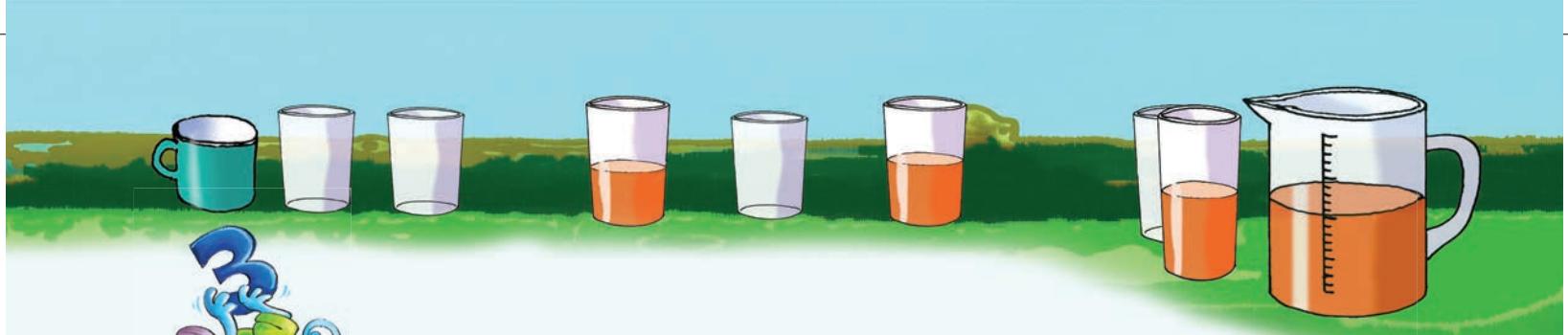


$$2 + 2 + 2 + 2 = \boxed{\quad}$$



$$2 + 2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$





Tsala swivulwa swa tinomboro swa leswi landzelaka.

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
$2 + 2 + 2 + 2 + 2 = \boxed{\quad}$									

<input type="text"/>									
<input type="text"/>									

<input type="text"/>									
<input type="text"/>									

<input type="text"/>									
<input type="text"/>									



Bana xirhendzevutana u tlhela u hlayela leswaku i mintlawa ya mbirhi yingani leyi u nga yi endlaka eka khadi rin'wana na rin'wana.

<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
--------------------------------------------------	--------------------------------------------------	--------------------------------------------------



Hetisa patironi ya tinomboro leti u nga ti tirhisaka ku endla mintlawa ya mbirhi.

I	2	3	4	5	6	7	8	9	10
II	I2	I3	I4	I5					

II I2 I3 I4 I5 I6 I7 I8 I9 20



q2



Kotara ya 3



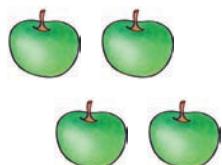
Tatisa tinomboro leti siyiweke.

- | | | | | | | | | | |
|----|--|----|--|----|--|---|--|---|--|
| I | | 3 | | 5 | | 7 | | 9 | |
| II | | 13 | | 15 | | | | | |



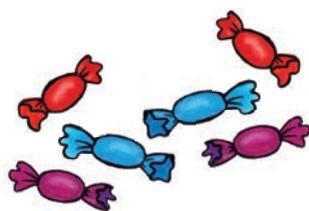
Endla mintlawa ya mbirhi.

Dirowa xirhendzevutana eka ntlawa wun'wana na wun'wana wa mbirhi.



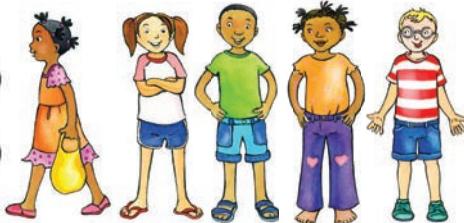
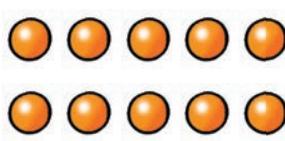
Xana ku na mintlawa yingani ya maapula?

N'wana un'wana na un'wana u ta kuma maapula mangani?



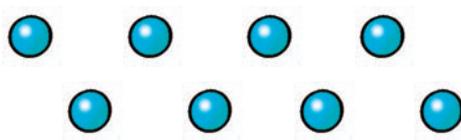
Xana ku na mintlawa yingani ya malekere?

N'wana un'wana na un'wana u ta kuma maapula mangani?



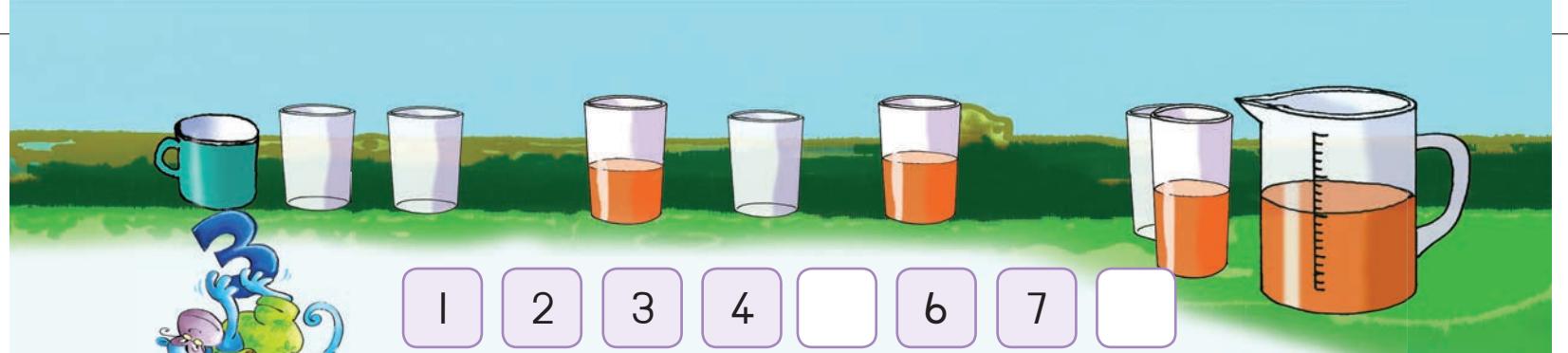
Xana ku na mintlawa mingani ya malamula?

N'wana un'wana na un'wana u ta kuma malamula mangani?



Xana ku na mintlawa yingani ya timabulu?

N'wana un'wana na un'wana u ta kuma timabulu tingani?

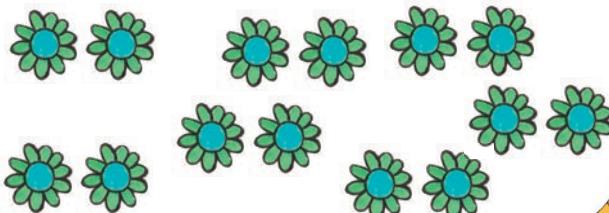


Tatisa tinomboro
leti siyiweke.

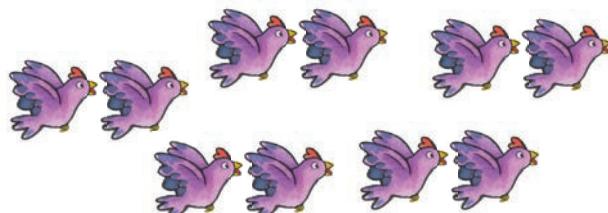
1	2	3	4		6	7	
2	4		8	10		14	16
0	3	6		12		18	21



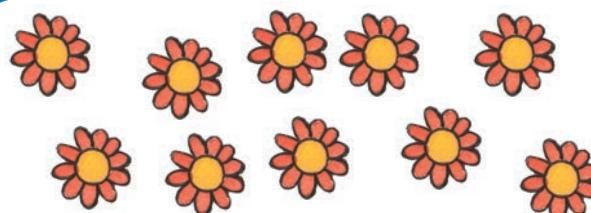
Tsala xivulwa xa tinomboro u tirhisa swimbirhi -mbirhi.



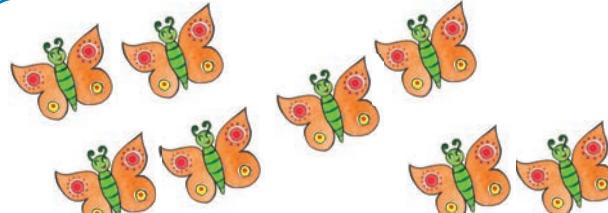
$$2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{14}$$



--	--



--	--



--	--

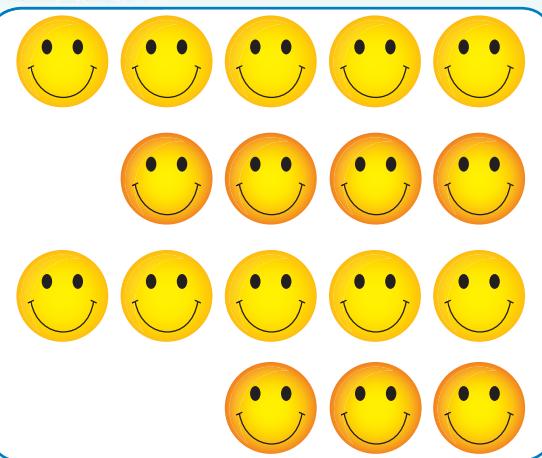


Khakhuleta leswi landzelaka:

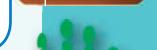
$2 + 2 + 2 =$	<input type="text"/>
$2 + 2 + 2 + 2 =$	<input type="text"/>
$2 + 2 + 2 + 2 + 2 =$	<input type="text"/>
$2 + 2 + 2 + 2 + 2 + 2 =$	<input type="text"/>
$2 + 2 + 2 + 2 + 2 + 2 + 2 =$	<input type="text"/>



Bana xirhendzevutana eka
mintlawa ya mbirhi eka ntila
wun'wana na wun'wana.



Teacher:
Sign:
Date:



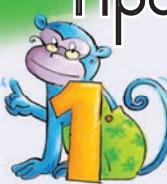
q3



Siku:

Kotara ya 3

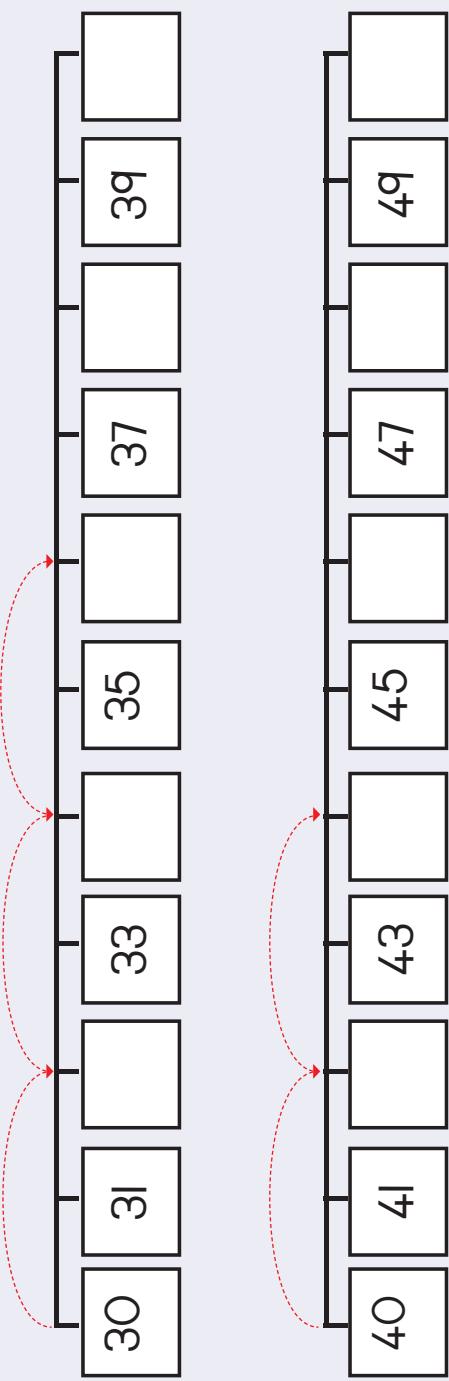
Tipatironi ta tinomboro ta 2 ku fika eka 50



Tsema tinomboro leti siyiweke eka Xitsemiwa xa 2 kutani u ti namarheta eka ndzhati wa mintsengo. Tlhela u hetisa na tihupu.



Hetisa patironi hi ku khalara tinomboro leti faneleke.



31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50



Dirowa tihupu ku kombisa leswi landzelaka:

30, 32, 34

28 30 32 34 36 38

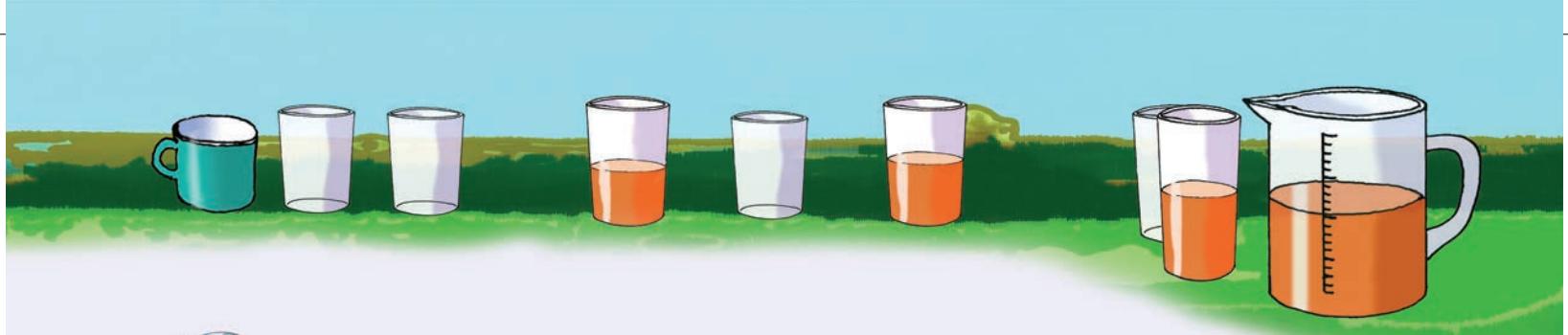
40, 42, 44

38 40 42 44 46 48

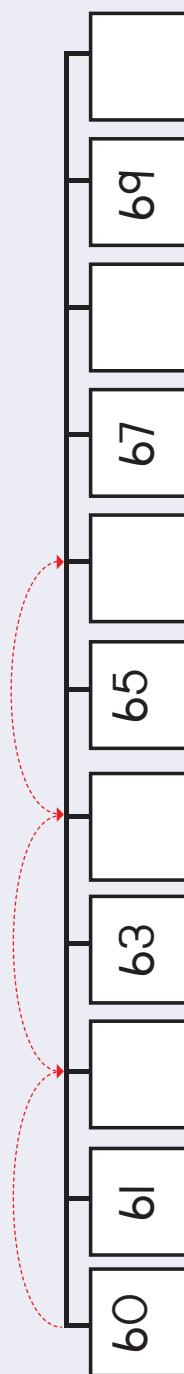
46, 48, 50

40 42 44 46 48 50





Tsema tinomboro leti siyiweke eka Xitsemiwa xa 2 kutani u ti
namarheta eka ndzhati wa mintsengo. Hetisa tihupu.



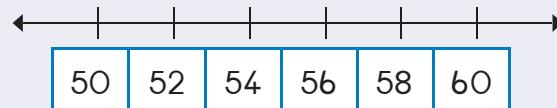
Hetisa patironi hi ku khalara
tinomboro leti faneleke.

61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80

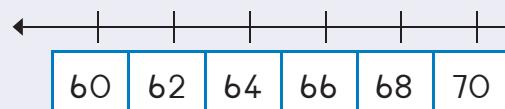


Dirowa tihupu ku kombisa
leswi landzelaka:

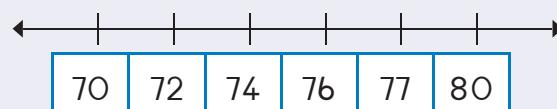
54, 56, 58



64, 66, 68



72, 74, 76



Teacher:
Sign:
Date:



q4

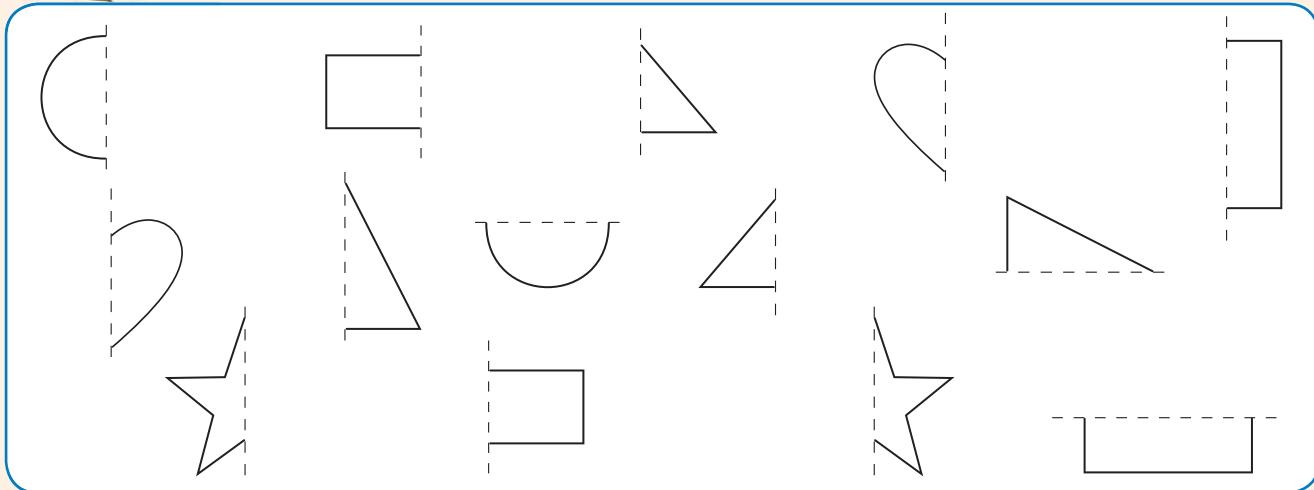


Siku:

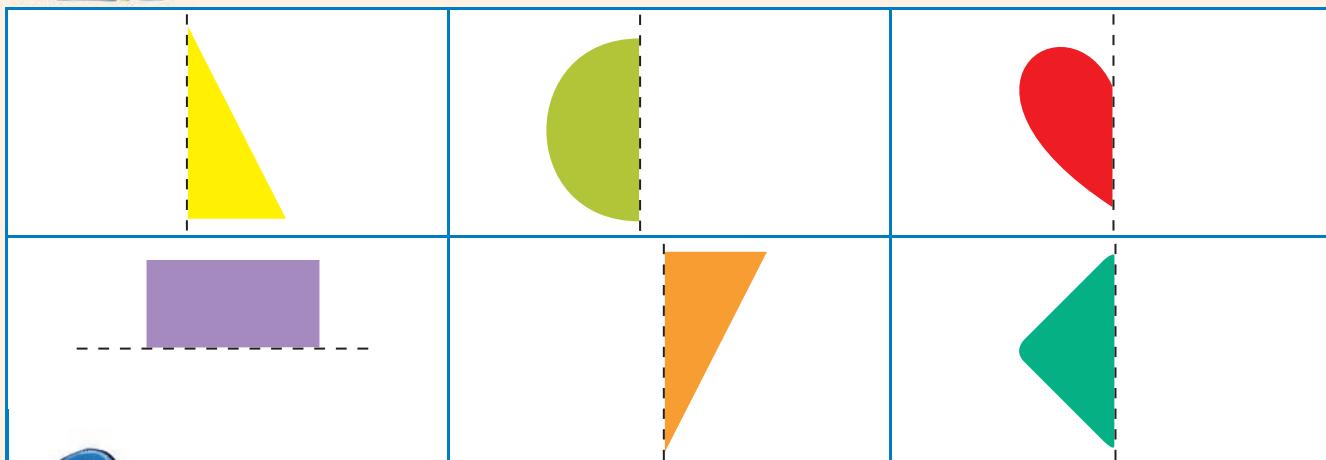
Kotara ya 3



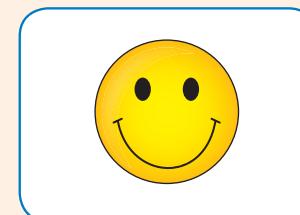
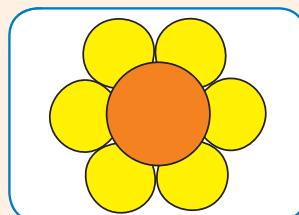
Khalara swiphemu swimbirhi swa swivumbeko leswi vumbaka xivumbeko xin'we.



Dirowa hafu yin'wana u tlhela u yi khalara.



Dirowa ntila wo avanyisa swifaniso leswi landzelaka eka swiphemu swimbirhi leswaku matlhelo hinkwawo ya languteka hi ndlela leyi fanaka.



60

0

1

2

3

4

5

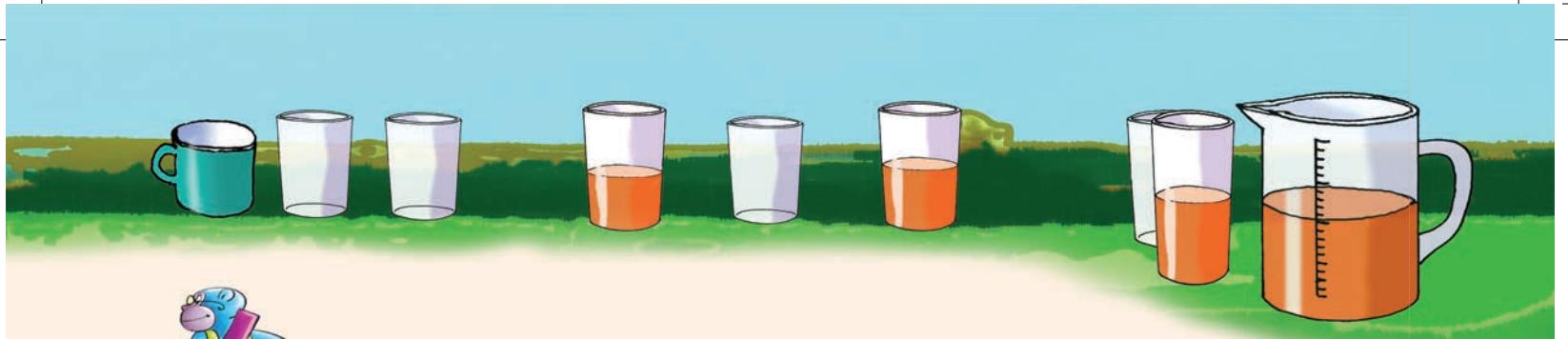
6

7

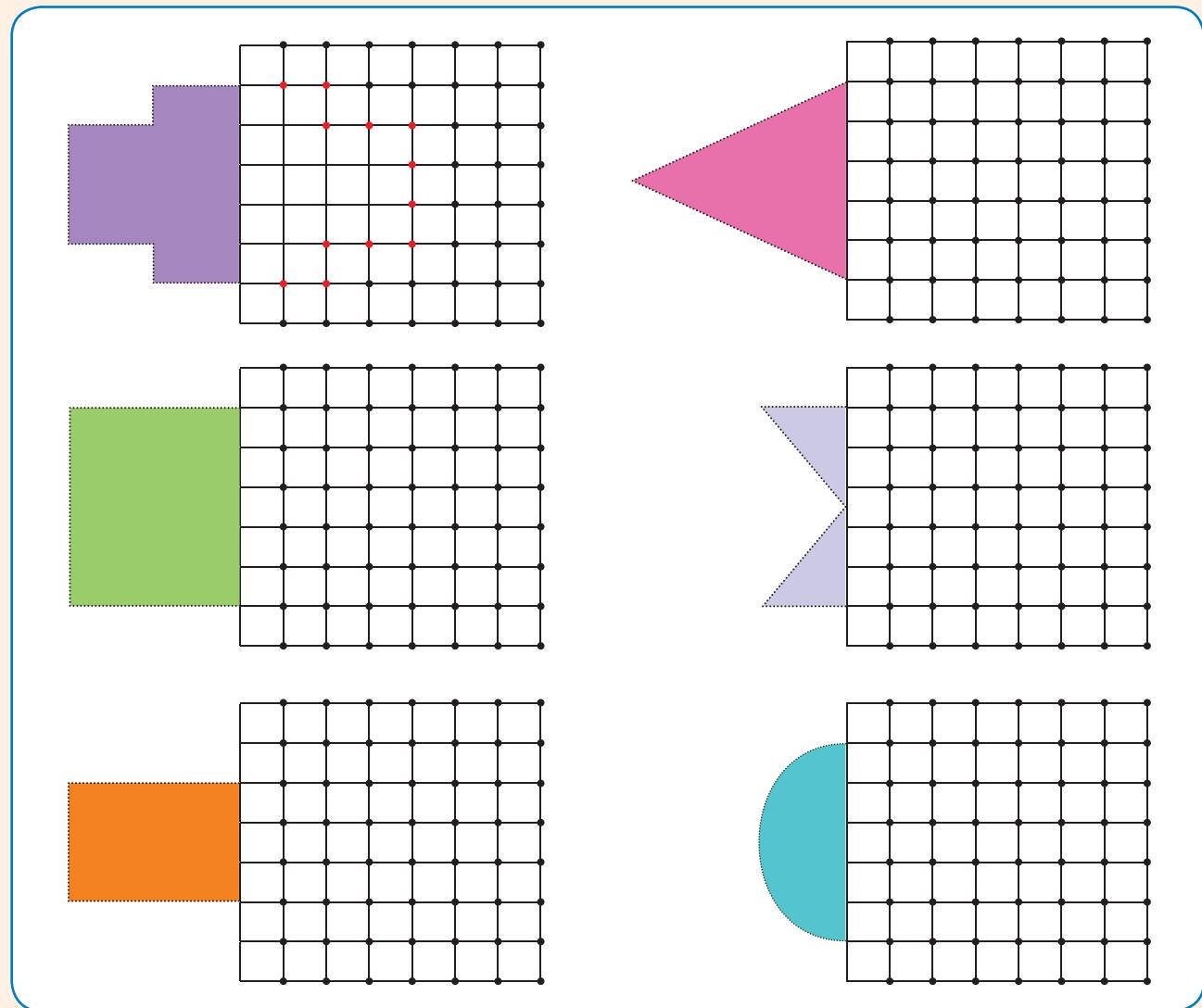
8

9

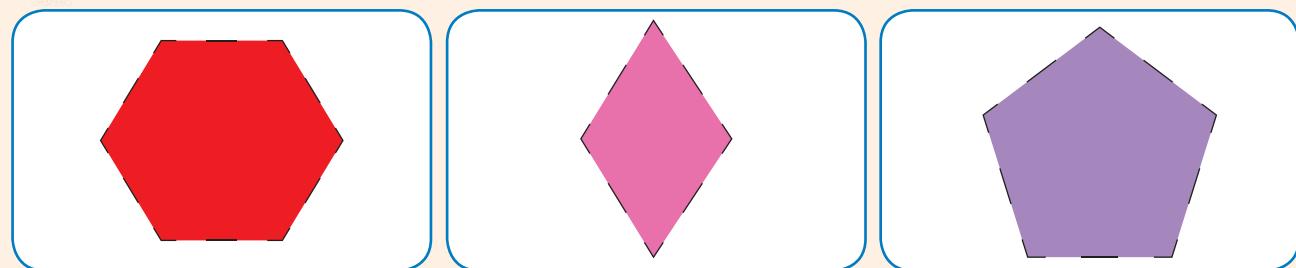
10



Dirowa hafu yin'wana ya xivumbeko u tirhisa bodo ya giridi ku ku letela.



Dirowa ntila wo avanyisa swifaniso leswi landzelaka eka swiphemu swimbirhi leswaku matlhelo hinkwawo ya languteka hi ndlela leyi fanaka.



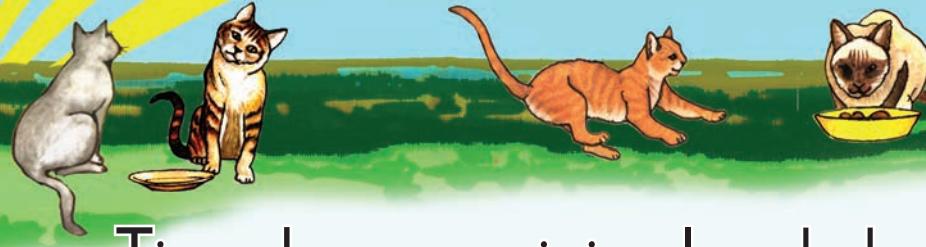
11 12 13 14 15 16 17 18 19 20



Teacher:
Sign:
Date:



95



Kotara ya 3

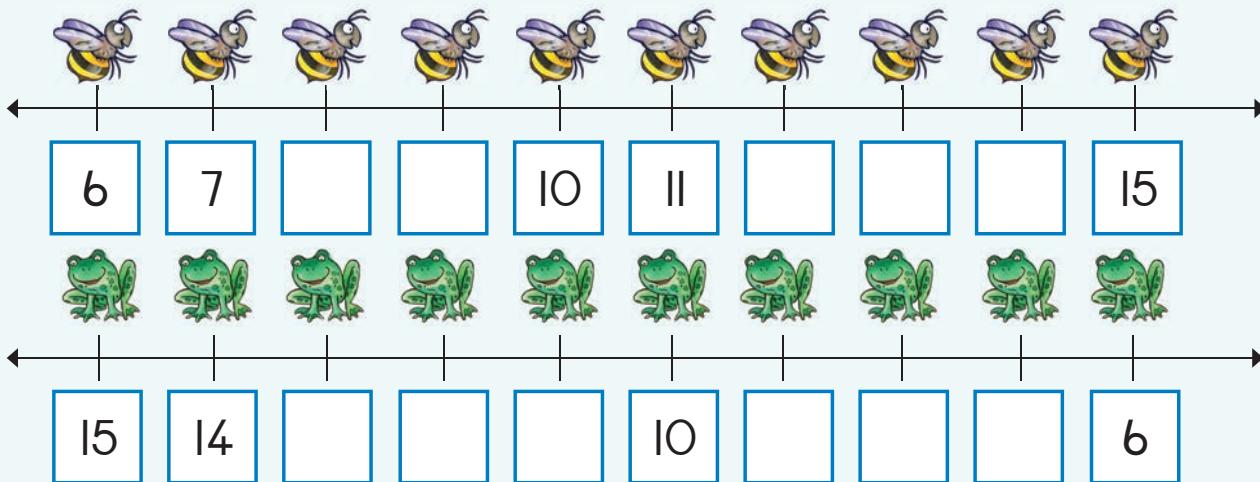


Tatisa tinomboro leti siyiweke.

10	II					15
q	10					



Tatisa tinomboro leti siyiweke.



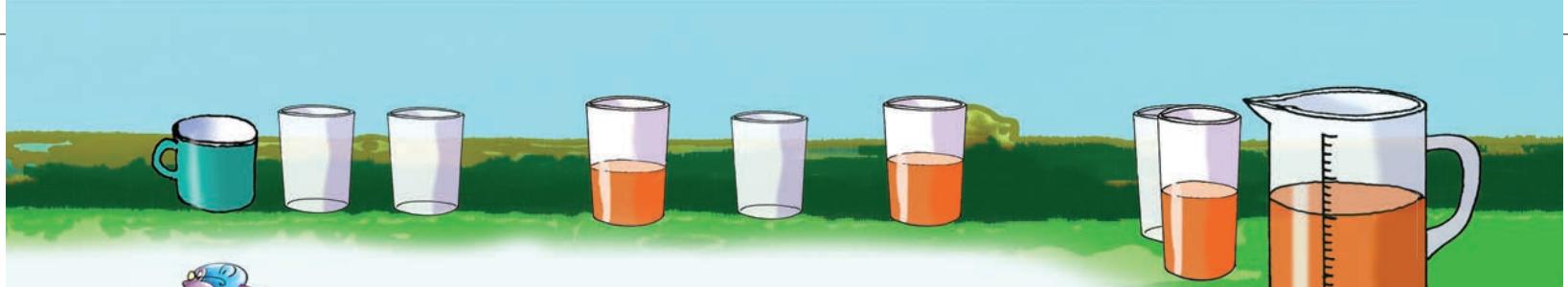
Tatisa nhlamulo.

$10 + 1 =$	II
$10 + 2 =$	
$10 + 5 =$	
$10 + 3 =$	

$15 - 10 =$	
$14 - 10 =$	
$12 - 10 =$	
$11 - 10 =$	



62



Khakhuleta nhlayo yin'wana na yin'wana ya muhlovo wo karhi kutani u khalara xiphemu xa xiphazamiso lexi nga na nomboro leyi faneleke. Tirhisu muhlovo lowu fanaka. Hi ku endlele nhlayo yo sungula.



10 + 1 hi wo tshwuka



10 + 3 hi wa pinki



10 + 5 hi wa wasi



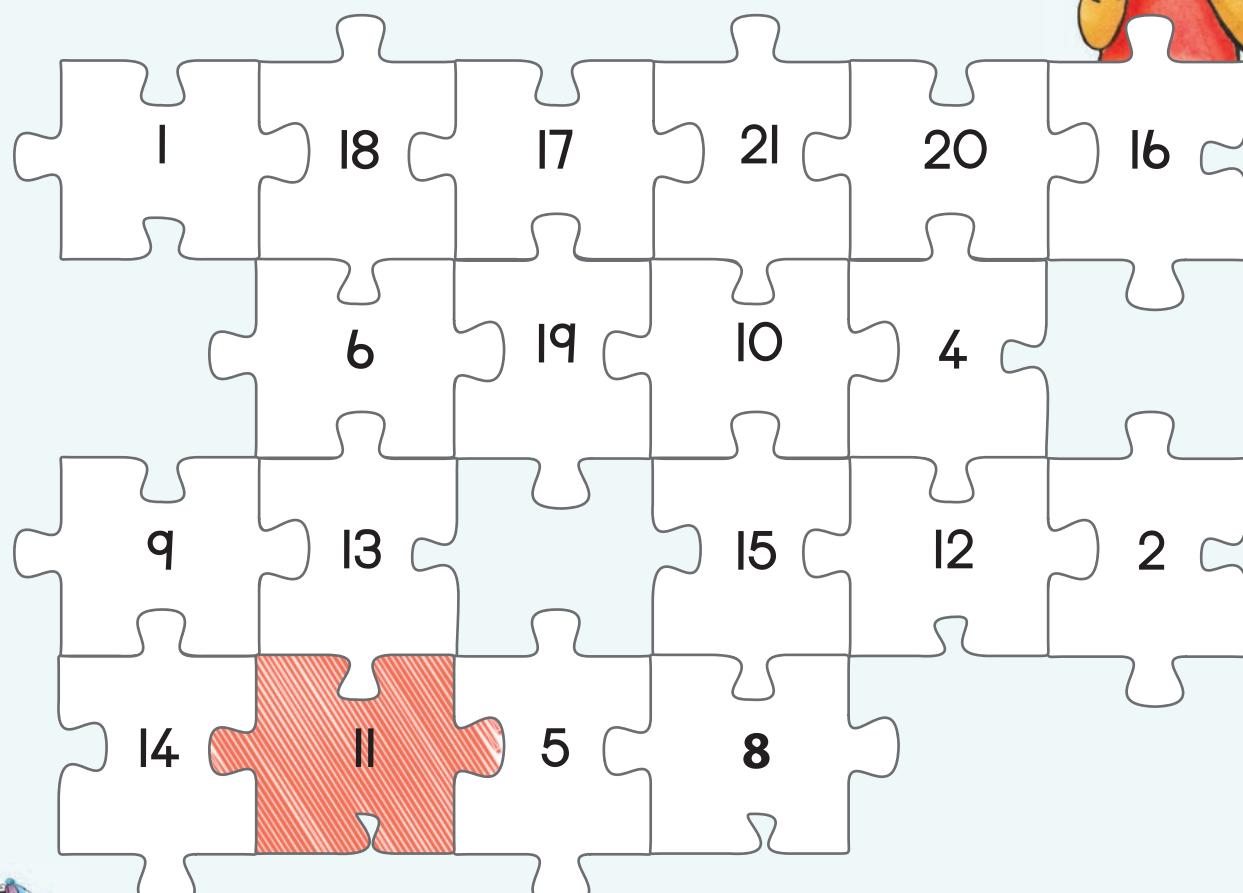
10 + 4 hi wa xitshopana



10 + 0 hi wa rihlaza



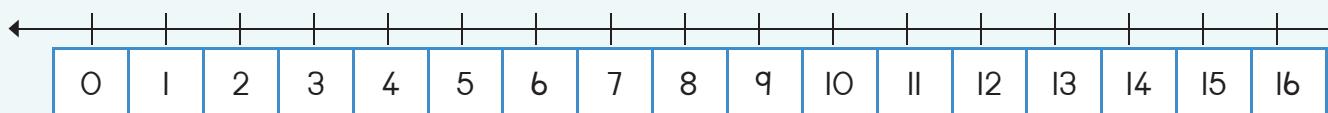
10 + 2 hi wa xilamula



Kombisa khume na mune eka ndzhati wa mintsengo.



Teacher:
Sign:
Date:



11 12 13 14 15 16 17 18 19 20



96



Siku:

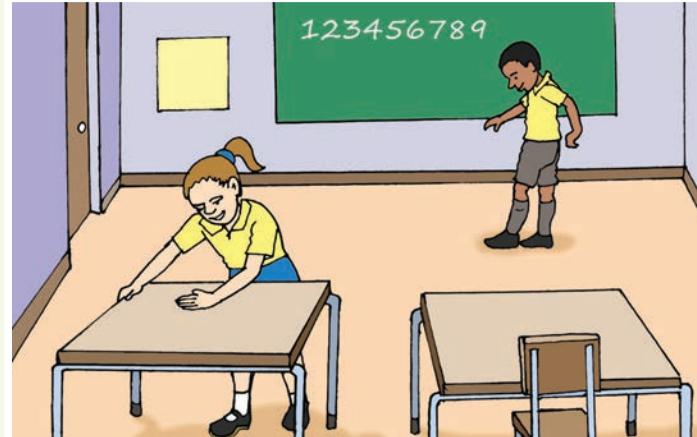
Vulehi

Kotara ya 3



Pima vulehi na vuanami bya desika kumbe tafula u tirhisa ku leha ka xandla xa wena. I swandla swa wena swingani leswi ringanaka na vulehi bya tafula?

I swandla swingani eka vuanami?



Vulehi byi ringana na _____
wa swandla.

Vuanami byi ringana na _____
wa swandla.



I minkondzo yingani eka tlhelo rin'we?



Tatisa nhlamulo.



Vulehi i _____ wa swandla.



0

1

2

3

4

5

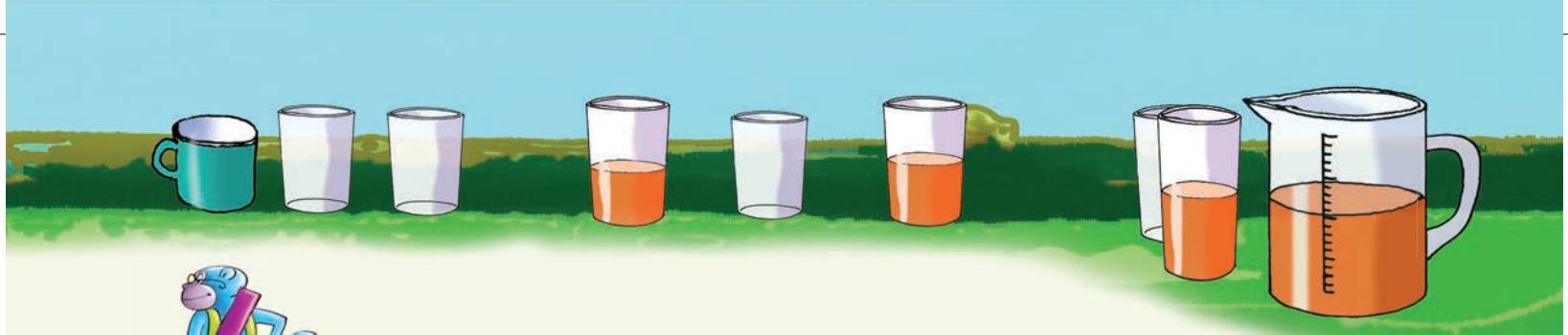
6

7

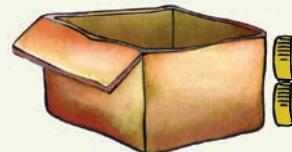
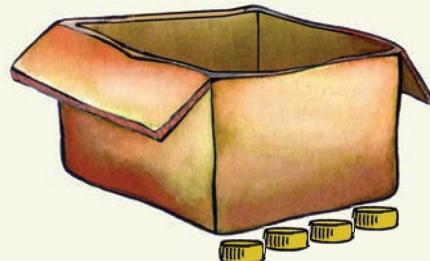
8

9

10



Hi byjhi vulehi na vuanami bya bokisi leri?

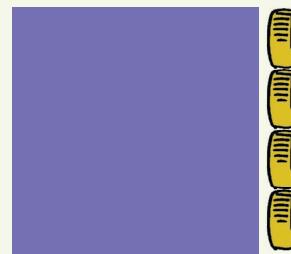
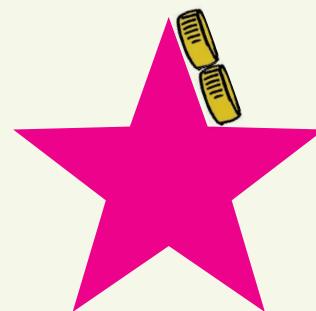
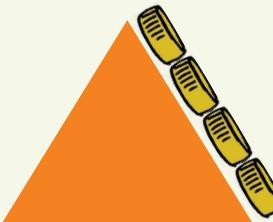


Vulehi i _____ wa swipfalo swa
mabodhlela hi ku leha.

Vuanami i _____ wa swipfalo swa
mabodhlela hi ku leha.



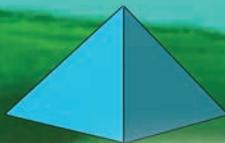
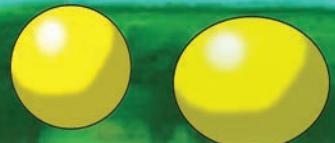
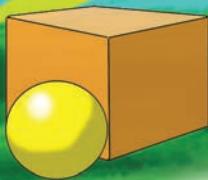
Xana tlhelo ri lehile ku ringana swipfalo swa mabodhlela swingani?



Teacher:
Sign:
Date:



97



Kotara ya 4

Nomboro ya 16

Mpfuxeto:

Titolovete ku tsala vito ra nomboro u tlhela u hetisa patironi.

7

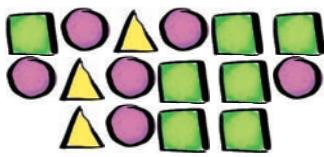
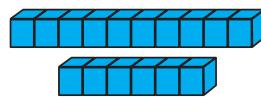
nkombo



Yelanisa swifaniso.

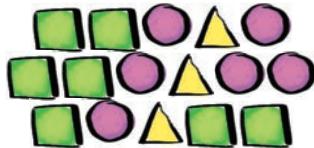


Landzelerisa tinomboro.

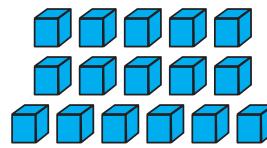


10
6

16



16



10
6

16 16 16 16

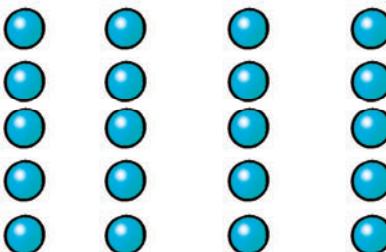
khumentsevu

16 16 16 16

khumentsevu



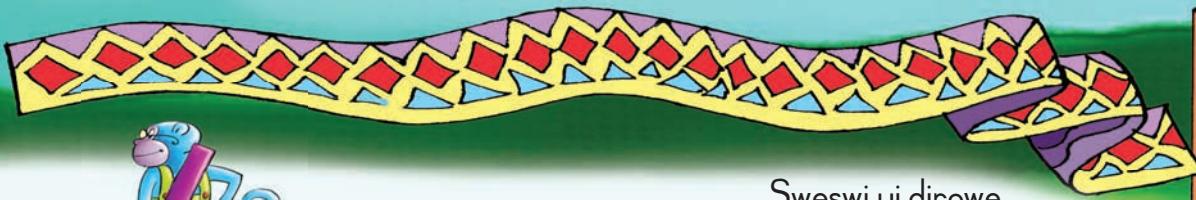
Bana xirhendzevutana
eka 16 wa vuhlalu.



Xana ku sale vuhlalu byingani? _____

66

0 1 2 3 4 5 6 7 8 9 10



Dirowa 16 wa minchumu.

Sweswi yi dirowe
hi ndlela yo hambana.



Tatisa nomboro leyi siyiweke.

2	3	4
19		21
17		19



Hetisa tafula leri landzelaka. Rixaxa rin'wana na rin'wana
ri na xifaniso, nomboro na mfungho wa nomboro leyo.

	16	
		khumentsevu



Hi kuma yini loko hi yisa 16
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka 16? _____



Hi kuma yini loko hi yisa khumentsevu ehansi hi n'we?

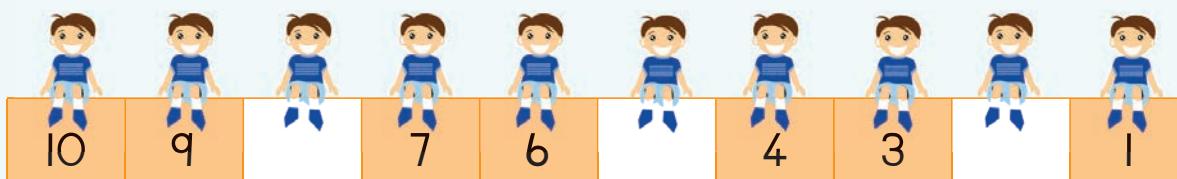
Hi kuma yini loko hi yisa khumentsevu ehansi hi mbirhi?

Hi kuma yini loko hi engetela n'we eka khumentsevu?

Hi kuma yini loko hi engetela mbirhi eka khumentsevu?



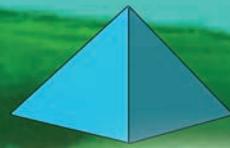
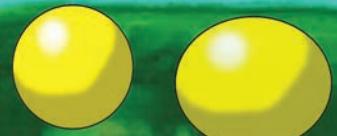
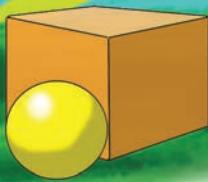
Tatisa tinomboro leti siyiweke.



11 12 13 14 15 16 17 18 19 20



98



Kotara ya 4

Nomboro ya 17

Mpfuxeto:

Titolovete ku tsala vito ra nomboro u tlhela u hetisa patironi.

8

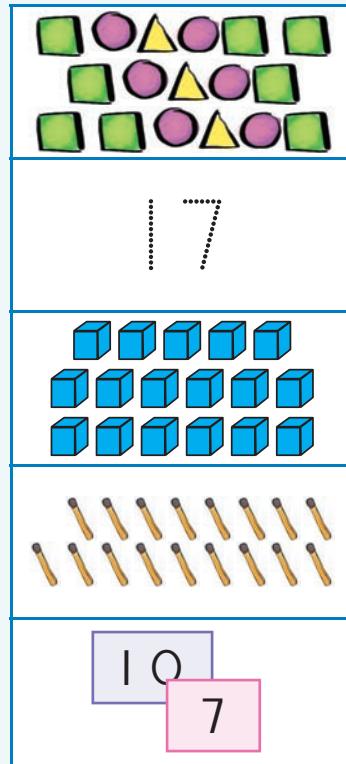
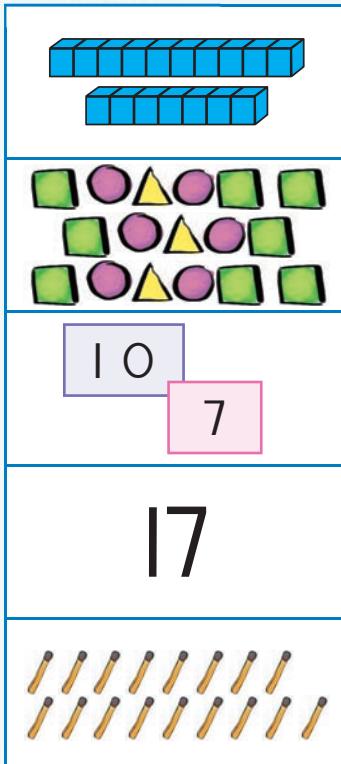
nhungu



Yelanisa swifaniso.



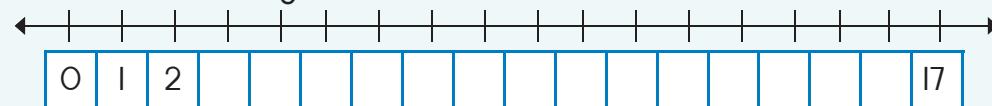
Landzelerisa tinomboro.



17 17 17 17
khumenkombo
17 17 17 17
khumenkombo



Hetisa ndzhati wa mintsengo.



68

0

1

2

3

4

5

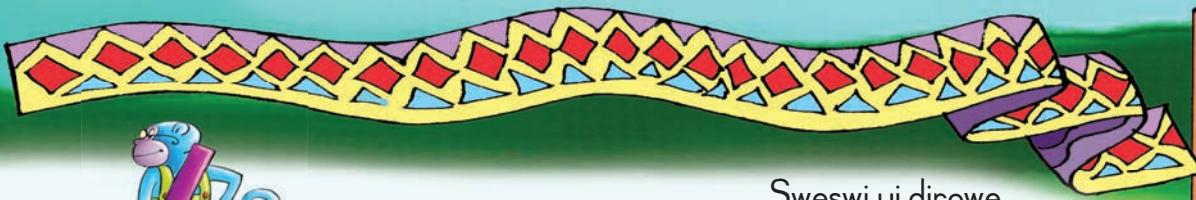
6

7

8

9

10



Dirowa 17 wa minchumu.

Sweswi yi dirowe
hi ndlela yo hambana.



Hi yihi nomboro leyi
landzelaka?

16	17	
24	25	
17	18	



Hetisa tafula
leri landzelaka.
Rixaxa rin'wana
na rin'wana ri na
xifaniso, nomboro
na mfungho wa
nomboro leyo.

	17	
		khumenkombo



Hi kuma yini loko hi yisa khumenkombo ehansi hi n'we?

Hi kuma yini loko hi yisa khumenkombo ehansi hi mbirhi?

Hi kuma yini loko hi engetela n'we eka khumenkombo?

Hi kuma yini loko hi engetela khumenkombo hi mbirhi?



Tatisa tinomboro leti siyiweke.

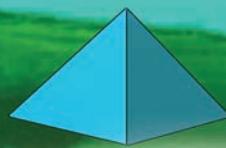
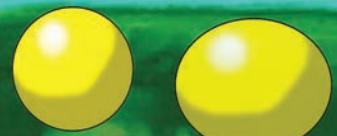
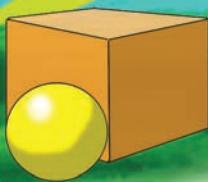
Tinomboro leti ti vitaniwa
tinhlayo-fadzenga.

	2		4		6		8		10
	12		14		16		18		20

11 12 13 14 15 16 17 18 19 20



qq



Kotara ya 4

Nomboro ya 18

Mpfuxeto:

Titolovete ku tsala vito ra nomboro u tlhela u hetisa patironi.

q

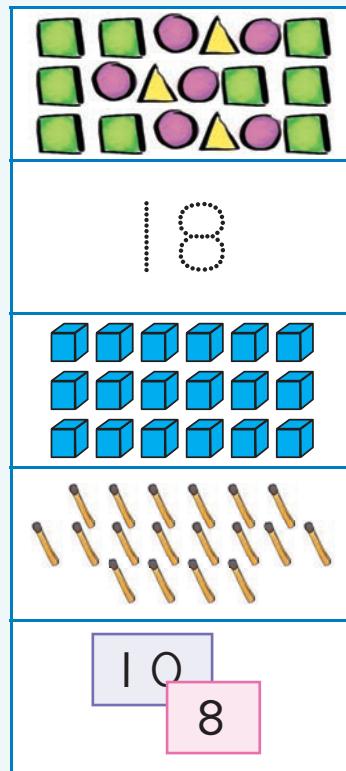
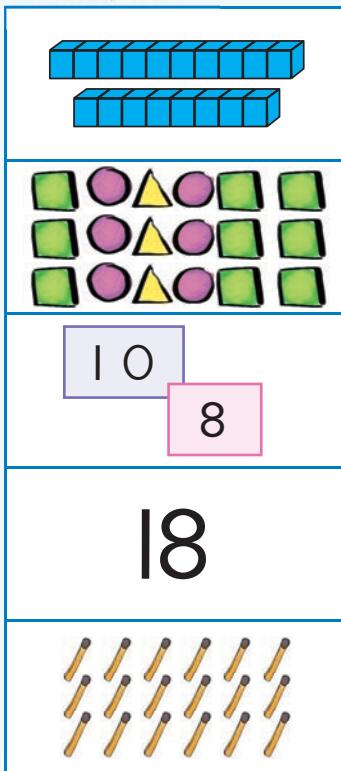
nhungu



Yelanisa swifaniso.



Landzelerisa tinomboro.



18 18 18 18

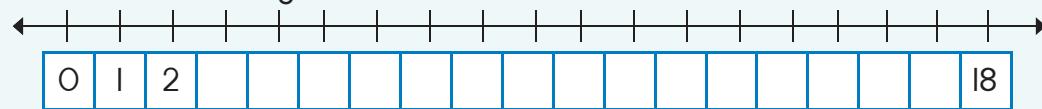
khumenhungu

18 18 18 18

khumenhungu



Hetisa ndzhati wa mintsengo.



70

0

1

2

3

4

5

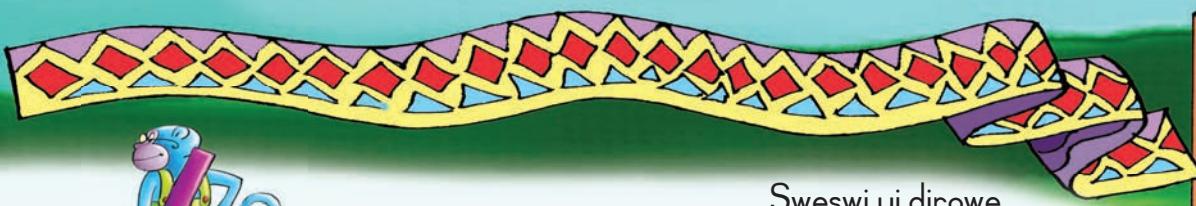
6

7

8

9

10



Dirowa 18 wa minchumu.

Sweswi yi dirowe
hi ndlela yo hambana.



Hi yihi nomboro leyi
taka endzhaku?

8	q	
33	34	
0	I	



Hetisa tafula
leri landzelaka.
Rixaxa rin' wana
na rin' wana ri na
xifaniso, nomboro
na mfungho wa
nomboro leyo.

	18	
		khumenhungu



Hi kuma yini loko hi yisa 18 ehansi hi n'we?

Hi kuma yini loko hi yisa 18 ehansi hi mbirhi?

Hi kuma yini loko hi engetela n'we eka 18?

Hi kuma yini loko hi engetela 18 hi mbirhi?



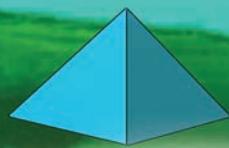
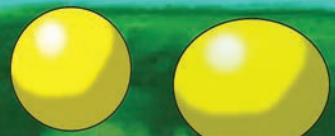
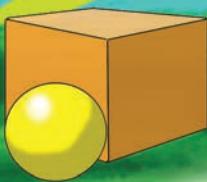
Tatisa tinomboro leti siyiweke.

I	2		4	5	6	7		9	10
II		I3	I4	I5		I7	I8		20

11 12 13 14 15 16 17 18 19 20



100



Nomboro ya 19

Mpfuxeto:

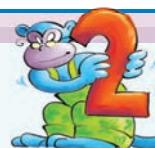
Titolovete ku tsala vito ra nomboro u tlhela u hetisa patironi.

10

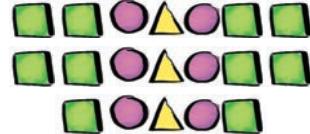
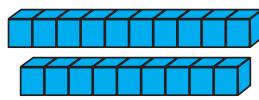
khume



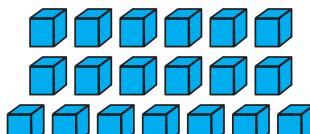
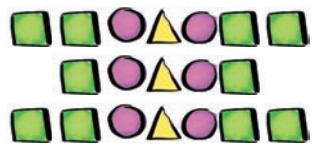
Yelanisa swifaniso.



Landzelerisa tinomboro.



19



10

9

19



10
9

19 19 19 19

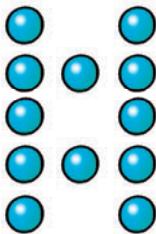
khumekaye

19 19 19 19

khumekaye



Bana xirhendzevutana
eka 19 wa vuhlalu
ntsena.



Xana ku sale vuhlalu byingani?



0

1

2

3

4

5

6

7

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10



Sweswi yi dirowe hi
ndlela yo hambana.

Sweswi yi dirowe
hi ndlela yo hambana.



Hi yihi nomboro leyi
taka exikarhi?

14		16
35		37
8		10



Hetisa tafula leri landzelaka. Rixaxa rin'wana na rin'wana ri na xifaniso,
nomboro na mfungho wa nomboro ley.

	19	
		khumekaye



Hi kuma yini loko 19 yi va ehansi hi n'we?

Hi kuma yini loko 19 yi va ehansi hi mbirhi?

Hi kuma yini loko hi engetela 19 hi n'we?

Hi kuma yini loko hi engetela 19 hi mbirhi?



Tatisa tinomboro leti siyiweke.

Tinomboro leti ti
vitaniwa
tinhlayo-ndzingano.

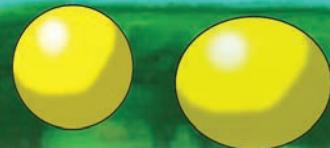
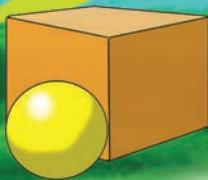
I		3		5		7		9	
II		13		15		17		19	

11 12 13 14 15 16 17 18 19 20



Teacher:
Sign:
Date:

101

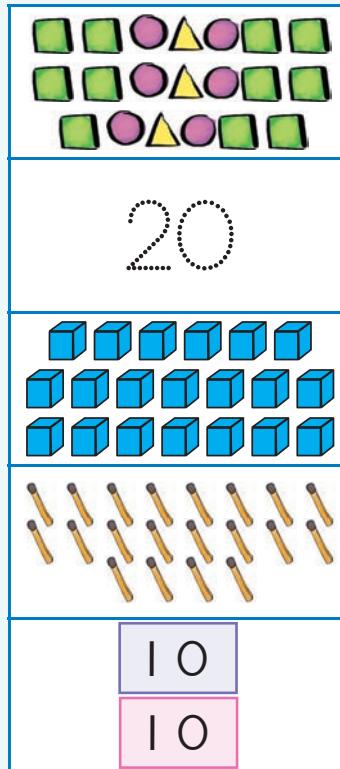
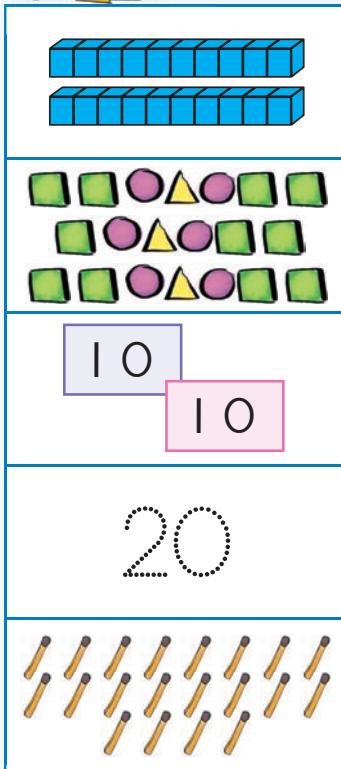


Kotara ya 4

Nomboro ya 20



Yelanisa swifaniso.



Landzelerisa tinomboro.

20 20 20 20

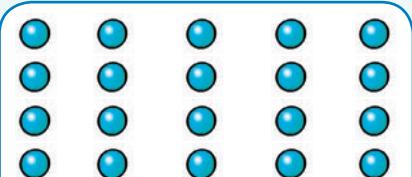
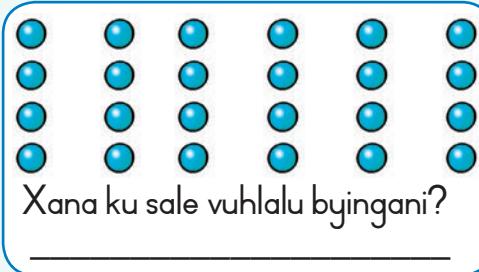
makumembirhi

20 20 20 20

makumembirhi



Bana
xirhendzevutana
eka 20 wa
vhhlalu ntsena.



Hetisa tafula leri landzelaka. Rixaxa rin'wana na rin'wana
ri na xifaniso, nomboro na mfungho wa nomboro leyo.

	20	makumembirhi
		makumembirhi
20		

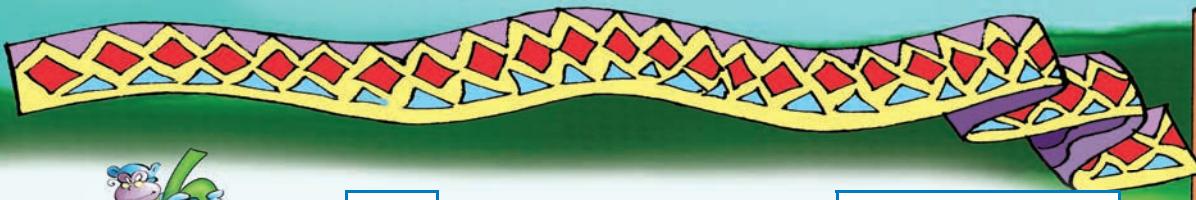


Hi kuma yini loko hi yisa 20
ehansi hi n'we? _____

Hi kuma yini loko hi engetela
n'we eka 20? _____



0 1 2 3 4 5 6 7 8 9 10



Hlanganisa
nomboro na
vito ra yona.

0
1
2
3
4
5
6
7
8
9
10
11
12
13
14

mune
nkombo
kaye
nharhu
khumen'we
khumembirhi
n'we
mbirhi
nhungu
ziro
ntlhanu
ntsevu
khumenharhu
khume
khumemune



Tatisa tinomboro leti siyiweke.

Emahlweni		Endzhaku
16	17	
	12	
	14	
	9	10
	6	



Tirhisra rito ra yitsongo na yikulu
ku hetisa leswi landzelaka.

35 i _____ eka 38

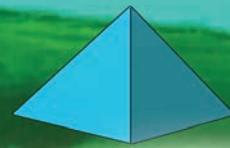
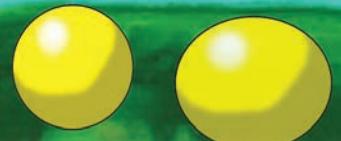
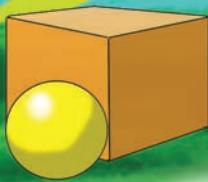
79 i _____ eka 65



Teacher:
Sign:
Date:



102



Kotara ya 4



Bana xirhendzevutana eka nomboro leyikulu eka buloko yin'wana na yin'wana.

3	5	15	11	20	8
8	7	12	6	17	18

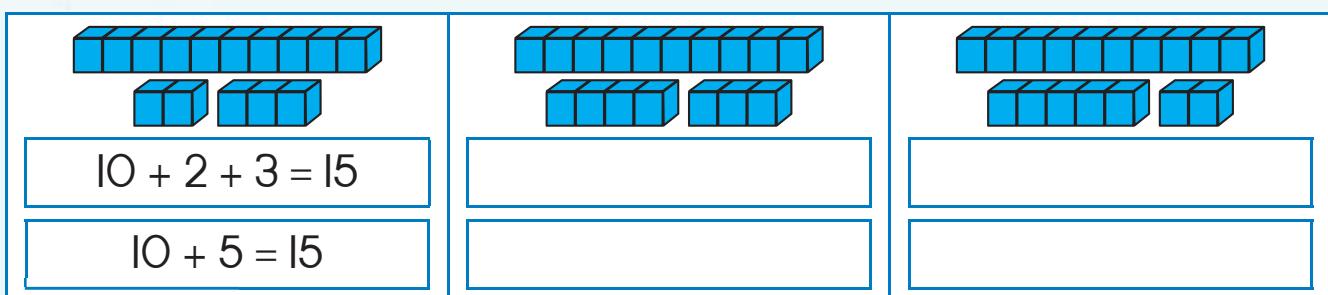


Hlanganisa leswi landzelaka. Rhanga hi ku tsala nomboro leyikulu.

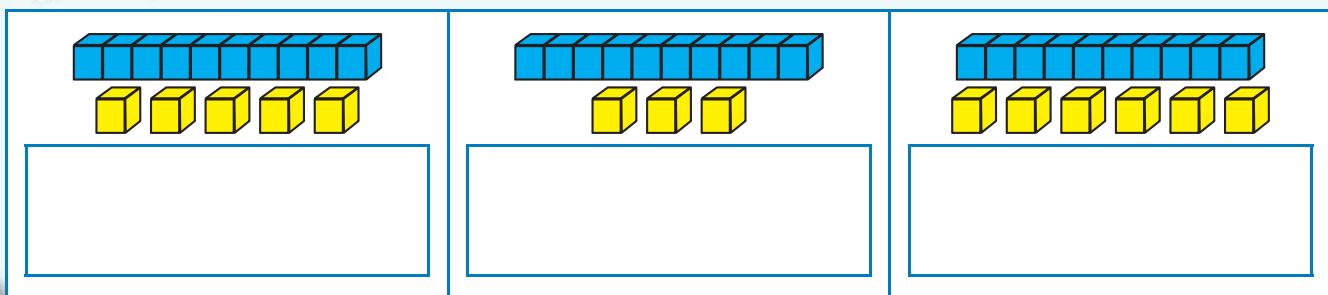
$1 + 1 + 5 =$	$5 + 1 + 1 =$
$6 + 2 + 10 =$	
$3 + 4 + 2 =$	
$2 + 6 + 3 =$	
$1 + 10 + 2 =$	



Hlanganisa tibuloko leti landzelaka.

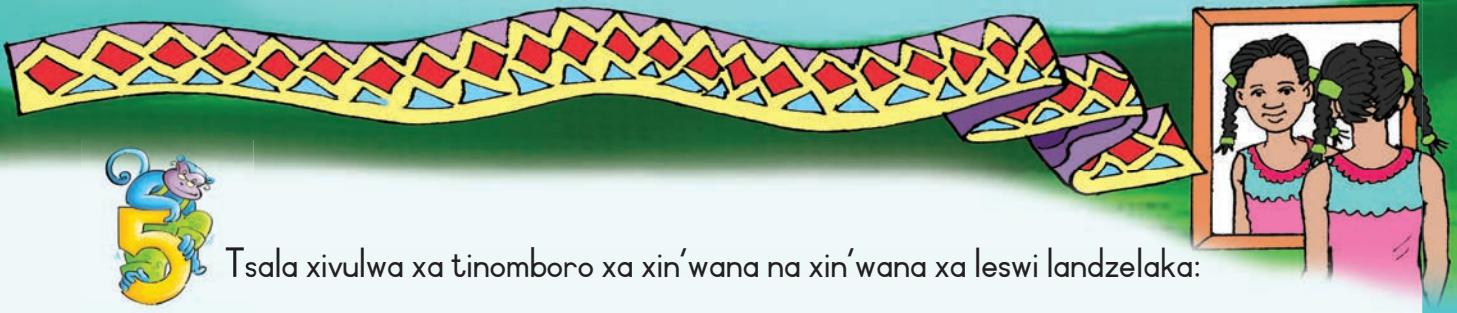


Tsala xivulwa xa tinomboro xa leswi landzelaka:

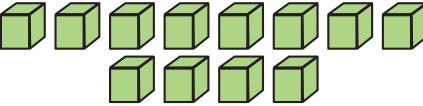
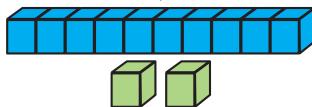
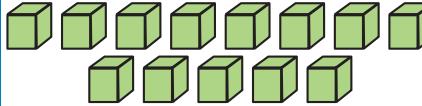
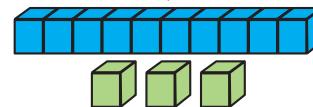
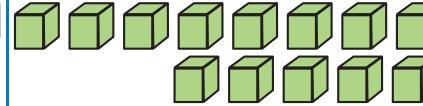
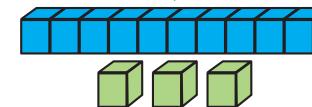
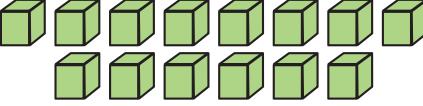
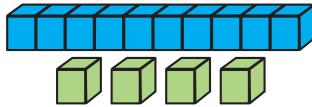
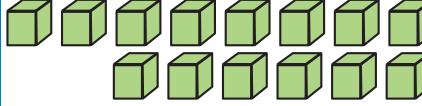
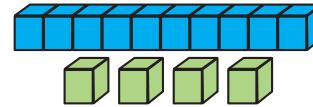
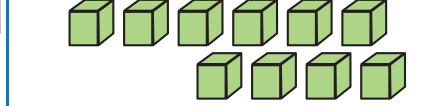
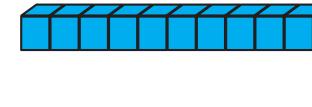


76

0 | 2 3 4 5 6 7 8 9 10



Tsala xivulwa xa tinomboro xa xin'wana na xin'wana xa leswi landzelaka:

 $8 + 4 = 12$  $10 + 2 = 12$	 	 
  	  	  

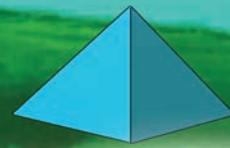
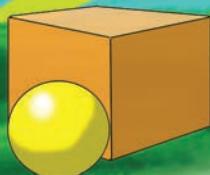


Tatisa tinomboro leti siyiweke.

	+	14	=	17
q	+		=	20
12	+	8	=	
15	+		=	20
	+	6	=	13
14	+	3	=	0



103

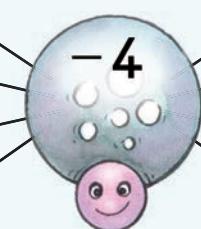


Kotara ya 4

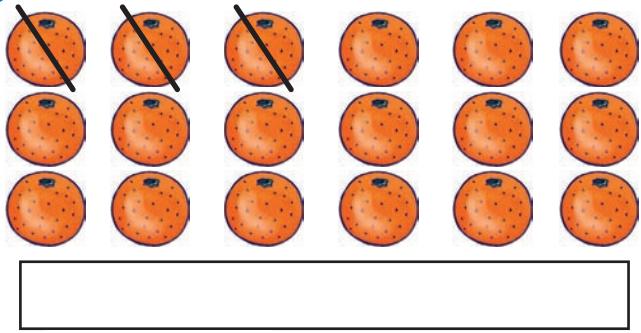


Khakhuleta.

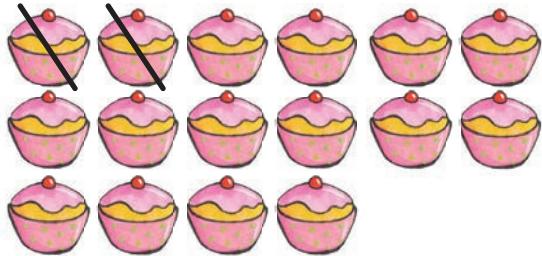
17
19
14
12



Tsala xivulwa xa tinomboro.

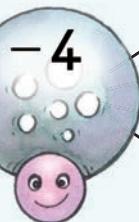


Tsala xivulwa xa tinomboro.

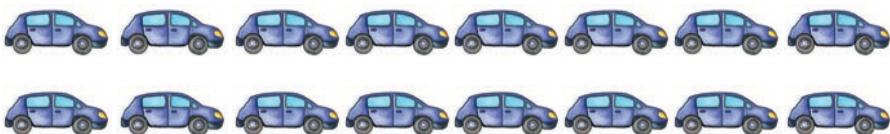


Khakhuleta.

18
7
15
9



Hetisa tinhlayo hi ku tirhisa swifaniso.



$$16 - \boxed{\quad} = \boxed{\quad}$$



$$10 + \boxed{\quad} = \boxed{\quad}$$



0

1

2

3

4

5

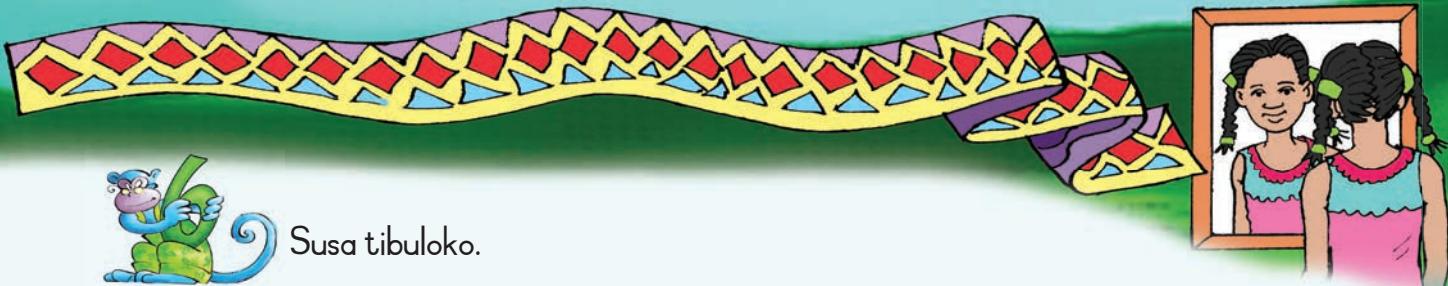
6

7

8

9

10



Susa tibuloko.

 $(10 + 3) - 2 =$ <input type="text"/> $13 - 2 =$ <input type="text"/>	 $(10 + 3) - 2 =$ <input type="text"/>	 $(10 + 3) - 2 =$ <input type="text"/>
------------------------------------------------------------------------------------	----------------------------------------------	----------------------------------------------



Khakhuleta
leswi landzelaka:

$11 + 7 =$ <input type="text"/> $11 + 4 +$ <input type="text"/> $=$ <input type="text"/>	$11 + 7 =$ <input type="text"/> $11 + 5 +$ <input type="text"/> $=$ <input type="text"/>
$19 - 7 =$ <input type="text"/> $19 - (5 +$ <input type="text"/> $) =$ <input type="text"/>	$17 - 9 =$ <input type="text"/> $17 - (7 +$ <input type="text"/> $) =$ <input type="text"/>



Hetisa leswi landzelaka:

5 kambirhi i	<input type="text"/>	3 kambirhi i	<input type="text"/>	4 kambirhi i	<input type="text"/>
7 kambirhi i	<input type="text"/>	2 kambirhi i	<input type="text"/>	8 kambirhi i	<input type="text"/>
10 kambirhi i	<input type="text"/>	9 kambirhi i	<input type="text"/>	1 kambirhi i	<input type="text"/>

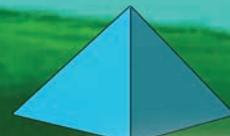
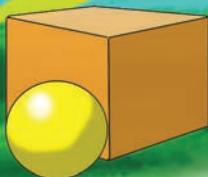


Hlamula leswi
landzelaka:

$9 + 9 - 1 =$	<input type="text"/>	kumbe	Mbirhihata $9 - 1 =$	<input type="text"/>
	<input type="text"/>	kumbe	Mbirhihata $5 - 1 =$	<input type="text"/>
$4 + 4 - 1 =$	<input type="text"/>	kumbe		



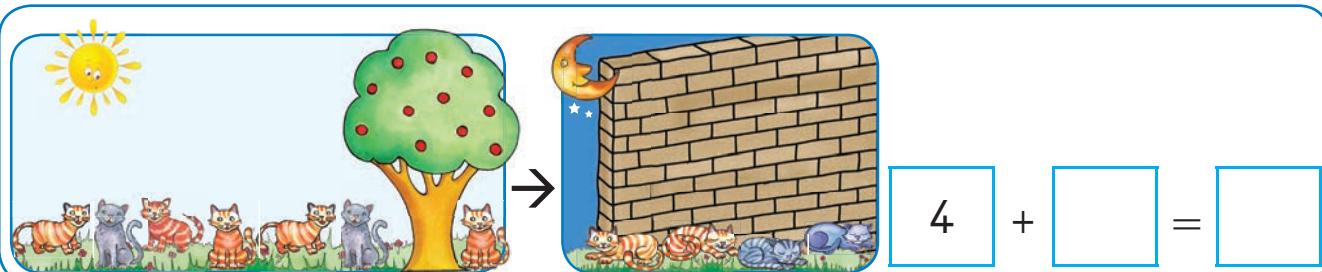
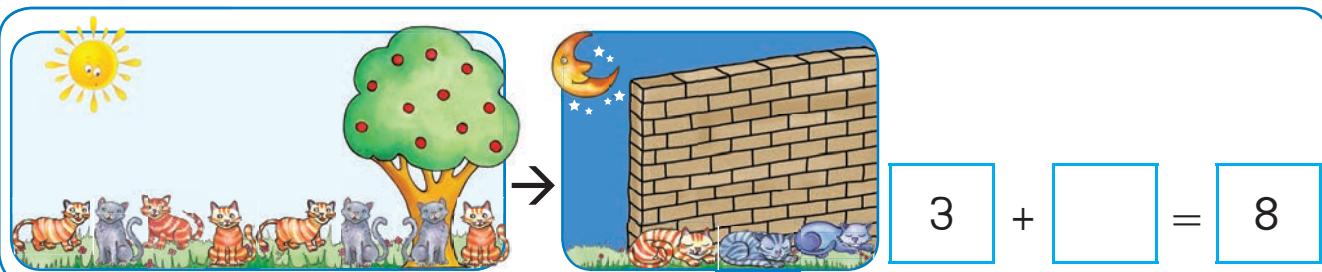
104



Kotara ya 4



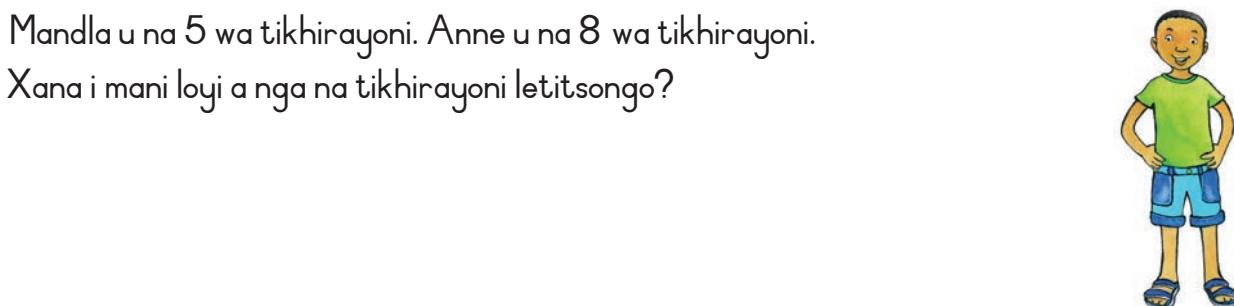
Hlayela leswaku i swimanga swingani leswi orheleke masana.
Nivusiku, swin' wana swi ettelela endzhaku ka khumbi. Kuma leswaku i swingani leswi
ettelelaka endzhaku ka khumbi kutani u tsala nhlayo ya swona.



Ololoxa leswi landzelaka.
U nga dirowa xifaniso xo kota ku ku pfuna.



Lerato u na 4 wa malamula. Peter u n'wi nyikile 13 wa malamula.
Xana u na malamula mangani sweswi?



Mandla u na 5 wa tikhirayoni. Anne u na 8 wa tikhirayoni.
Xana i mani loyi a nga na tikhirayoni letitsongo?



80

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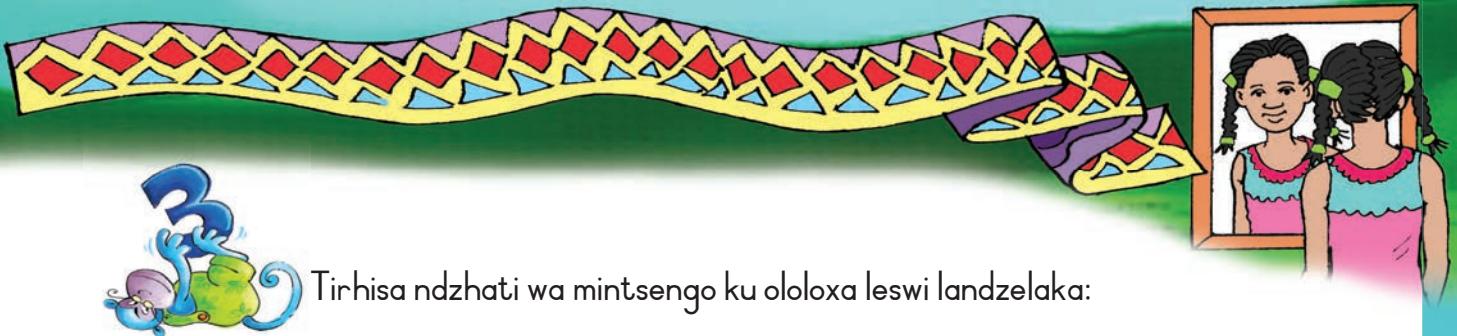
6

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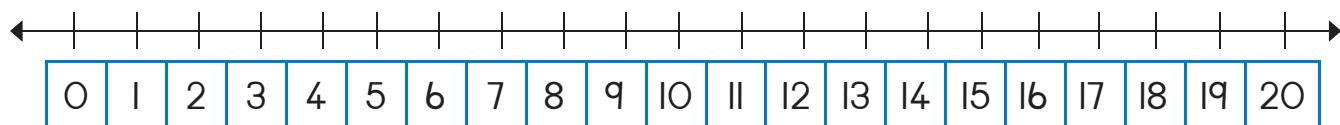
9

10

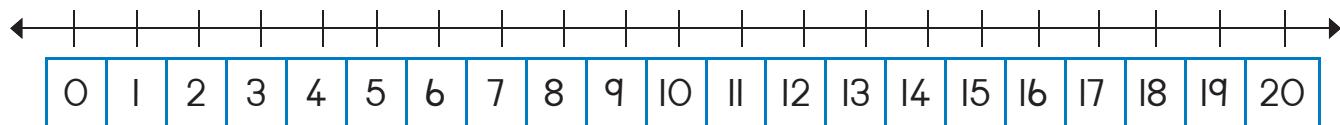


Tirhisa ndzhati wa mintsengo ku ololoxa leswi landzelaka:

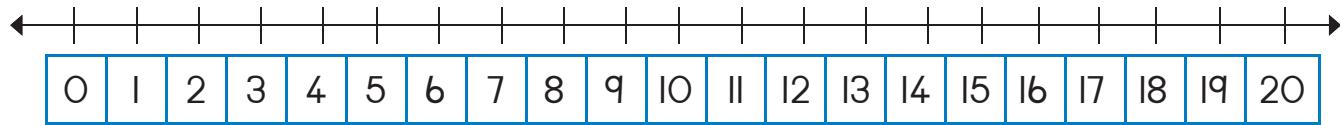
Thandi u na **6** wa timabulu ta rihlaza na **9** wa timabulu ta wasi.
Xana u na timabulu tingani?



Lerato u na **16** wa timabulu. Nhungu wa tona i ta rihlaza kasi hinkwato leti saleke i ta wasi. Xana Lerato u na timabulu tingani ta wasi?



Thandi u na **19** wa mabanana. Themba u na **10** wa mabanana.
Xana mabanana ya Thandi ya tlula ya Themba hi mangani?



Hi tihi tinomboro leti nga exikarhi ka **25** na **30**?



Bana xirhendzevutana eka nomboro leyikulu eka **76** hi 1.

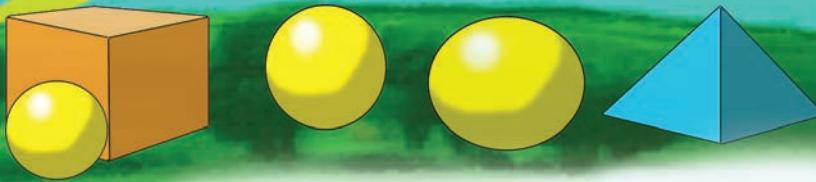
74	75	76	77	78
----	----	----	----	----



Bana xirhendzevutana eka nomboro leyikulu eka **76** hi 2.

74	75	76	77	78
----	----	----	----	----

105



Tinomboro to landzelelana

Kotara ya 4



I mani loyi a nga kuma xiyimo xo sungula eka mphikizano?
Tsala xiyimo ehansi ka vona.

Sipho	Lerato	John	Peter	Ann
<input type="text"/>	<input type="text"/> 2	<input type="text"/> 3	<input type="text"/>	<input type="text"/>



Va dirowe va ri
exitejini.

Silivhere

Nsuku

Buronzi

I mani loyi a kumeke nsuku? _____ I mani loyi a kumeke silivhere? _____



Dirowa vuhlalu hi
ndlela leyi:

Vuhlalu byo sungula i bya wasi.
Vuhlalu bya vumbirhi i byo tshwuka.
Vuhlalu bya vunharhu i bya rihlaza.
Vuhlalu bya vumune i bya xitshopana.
Vuhlalu bya vuntlhanu i bya wasi.
Vuhlalu bya vuntsevu i byo tshwuka.
Vuhlalu bya vunkombo i bya rihlaza.
Vuhlalu bya vunhungu i bya xitshopana.
Vuhlalu bya vukaye i bya wasi.
Vuhlalu bya vukhume i byo tshwuka.

Vuhlalu bya mina.



82

0 1 2 3 4 5 6 7 8 9 10



Languta ndzandzelelano wa swivumbeko.
Kopunula swivumbeko eka tindhawu leti faneleke etafuleni.
Hi ku endlele xo sungula.



I xivumbeko xihi lexi nga:

Xa vumune		Xa vunkombo	
Xa vuntlhanu		Xa vukaye	
Xa vumbirhi		Xo hetelela	
Xa vunharhu		Xa vuntsevu	



Endla leswi landzelaka:



Khalara xirhendzevutana xo sungula hi muhlovo wo tshwuka.



Khalara xirhendzevutana xa vuntlhanu hi muhlovo wa xitshopana.



Khalara xirhendzevutana xa vunhungu hi muhlovo wa wasi.

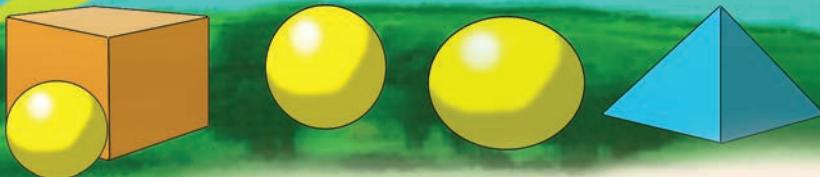


Dirowa ndzhati wa mintsengo ya 10 ku fika eka 20.

Bana swirhendzevutana eka nomboro ya vunharhu na nomboro ya vunhungu.



106

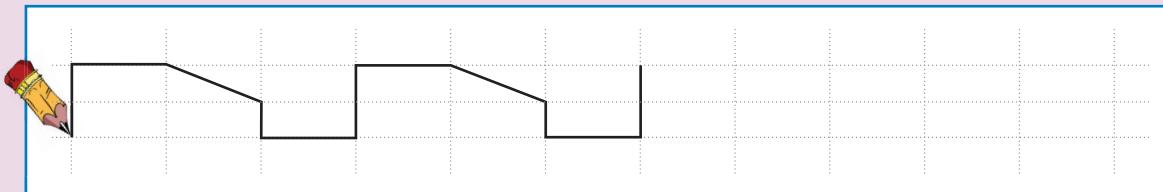


Minchumu na swivumbeko

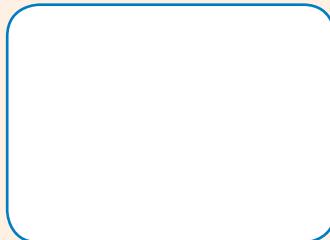
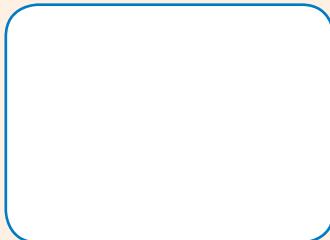
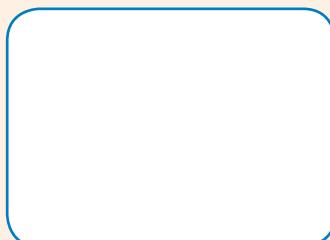
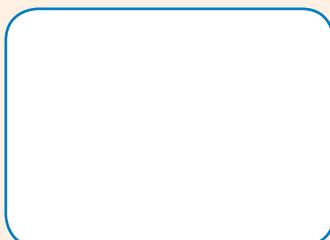
Kotara ya 4

Mpfuxeto:

Mpfuxeto: Hetisa patironi.



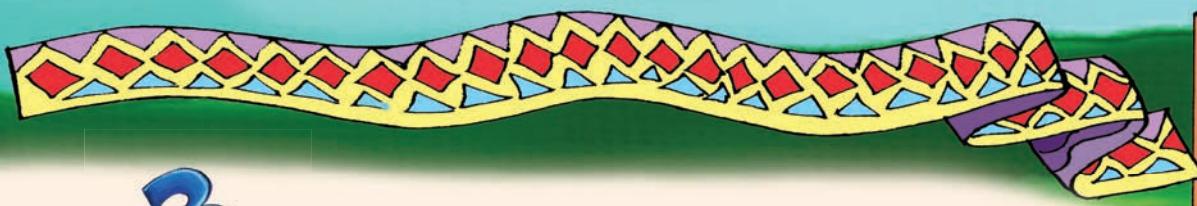
Lava swifaniso swimbirhi swa bolo na swifaniso swimbirhi swa bokisi eka phephahungu kumbe magazini kutani u swi namarheta laha hansi.



Dirowa xirhendzevutana xa wasi eka minchumu leyi rhetaka.

Dirowa xikwere xo tshwuka eka minchumu leyi khungulukaka.





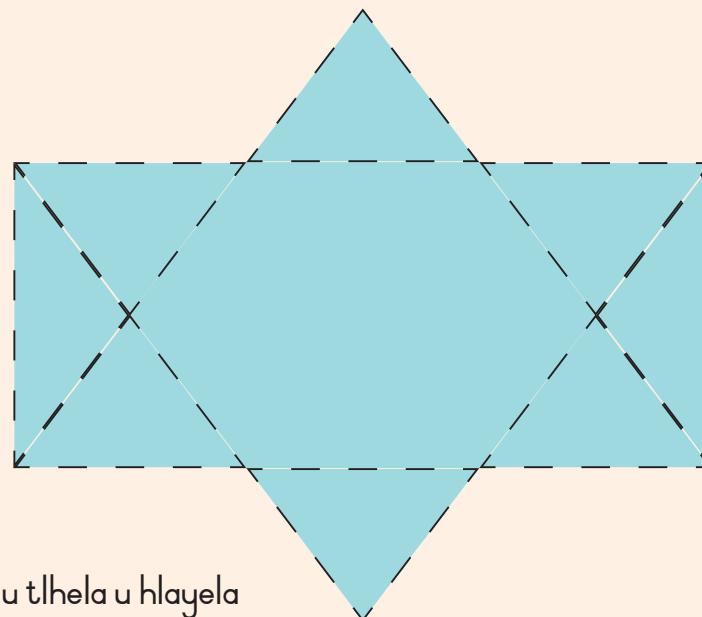
Landzelerisa rito kutani u dirowa nchumu wa kona.

bokisi

bolo



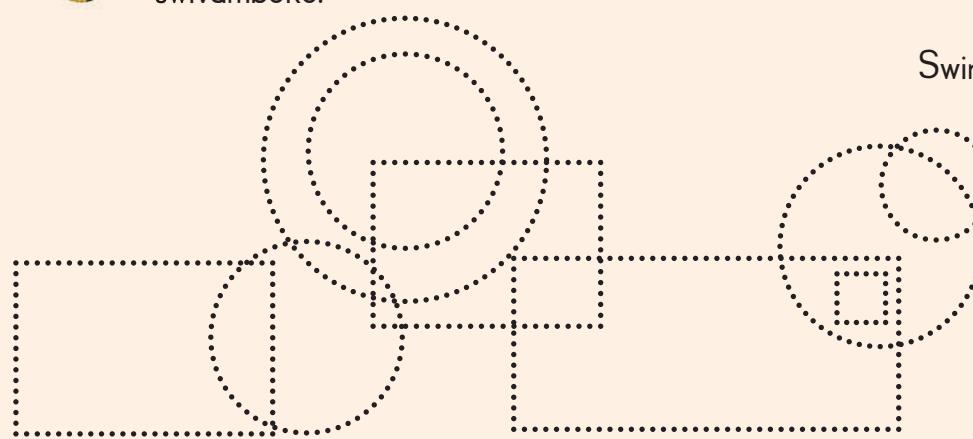
Hlayela tiyinhlanharhu hinkwato kutani u tsala nhlayo ya tona.



Nhlamulo:



Landzelerisa u tlhela u hlayela swivumbeko.

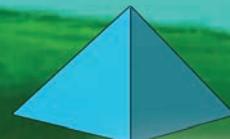
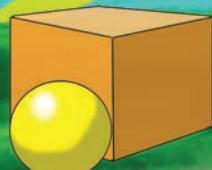


Swirhendzevutana

Swikwere



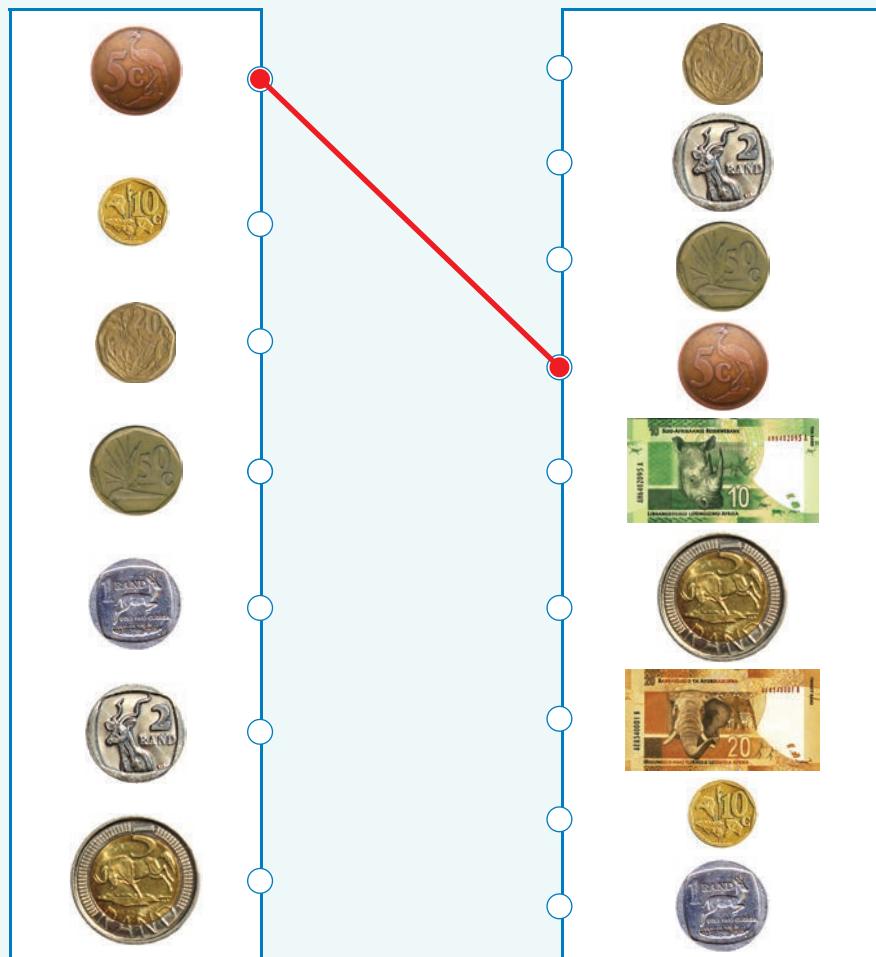
107



Kotara ya 4

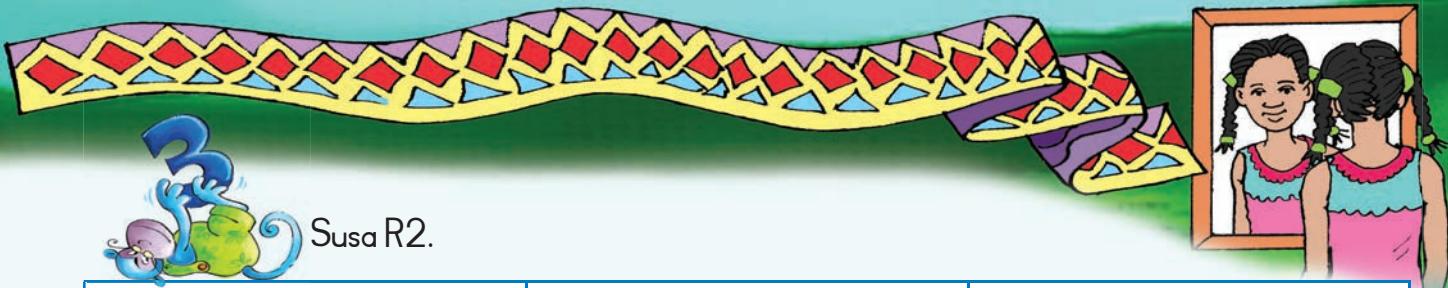


Hi swihi
swingwece
leswi u nga swi
pananisaka?



Gwajula swingwece na mali ya maphepha eka buloko yin'wana na yin'wana
leyi nga ta ku nyika mintsengo leyi landzelaka.

RIO		<input type="checkbox"/>						
R20		<input type="checkbox"/>						
RI5		<input type="checkbox"/>						



Susa R2.

 $RI2 - R2 = RIO$		



Susa R5.

$RI5 - R5 = RIO$		



I mihangano yingani yo hambana leyi u nga yi dirowaka ya R20?
Hi ku endlele wo sungula.



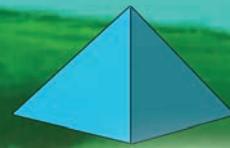
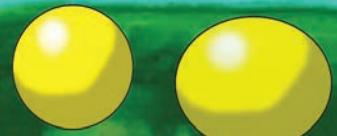
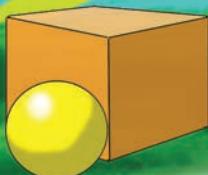
Bana xirhendzevutana eka xingwece lexi u nga xavaka swo tala hi xona eka ntila wun'wana na wun'wana



Teacher:
Sign:
Date:



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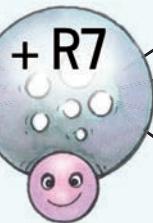
Kotara ya 4

Mali yin'wana



Khakhuleta.

R5
R9
R7
R4





Tatisa nhlamulo.



Khakhuleta.

RI3
RI5
RI7
RI4

- R6

- R6

- R6

- R6

- R6



Hi yihi leyi nga tala?
Bana xirhendzevutana
eka nhlamulo ya wena.

RIO + RI =	
RIO + R2 =	
RIO + R3 =	
RIO + R4 =	
RIO + R5 =	

5c kumbe R5
20c kumbe R20
RI kumbe 50c
R2 kumbe RI
20c kumbe 50c



Hlanganisa tinomboro leti hingakanyaka na tinomboro leti landzelelanaka ku ya
ehansi kutani u tatisa tinhlamulo.

R2	R4	R9	=
R7	R3	R5	=
R6	R8	RI	=
=	=	=	=



88

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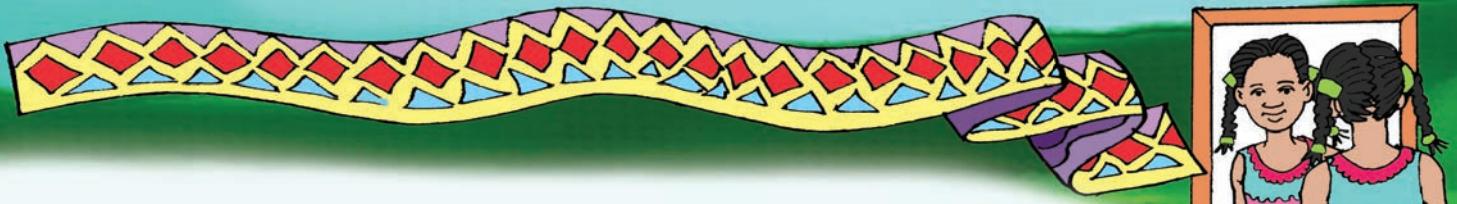
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Languta xikombiso
endzhaku u hetisa
leswi saleke.



Jimisi u xavile xinkwa hi R8.
U xi hakelerile hi mali ya phepha ya RIO.
Xana u kumile cinci ya mali muni?

RI7	=	RIO	+	R7
RI6	=		+	
RI5	=		+	
RI4	=		+	
RI3	=		+	
RI2	=		+	



Manana wa Busi u xavile
xigqhoko hi RI7. U hakerile
hi mali ya phepha ya tiRIO
timbirhi. Xana u kumile cinci ya
mali muni?

Hi xihi xivutiso?

Tsala tinomboro.

Tsala nhlayo u tlhela u yi khakhuleta.



Siku ra Judy ra ku velekiwa a ri ri hi
Sonto. U amukerile R5 yo huma eka
sesi wa yena, R2 yo huma eka buti
wa yena na RIO yo huma eka khazi
wa yena. Xana u kumile mali muni
loko yi hlanganile hinkwayo?

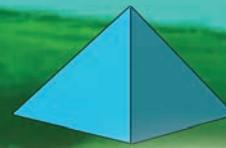
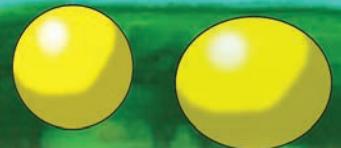
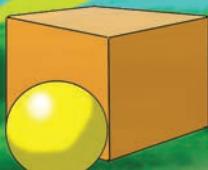
Hi xihi xivutiso?

Tsala tinomboro.

Tsala nhlayo u tlhela u yi khakhuleta.



10q

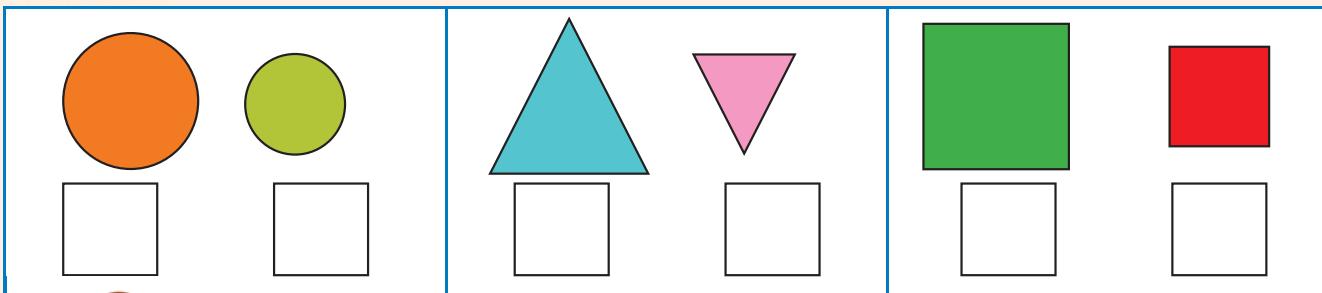


Kotara ya 4

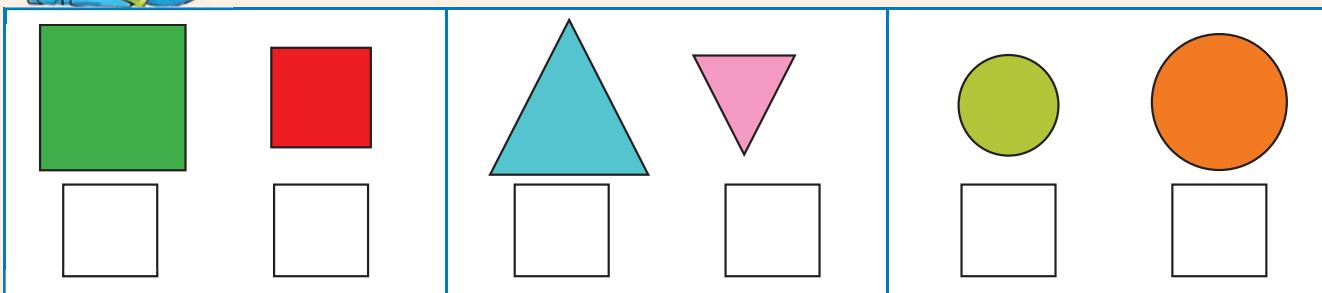


Swivumbeko swa 2 wa matlhelo

Gwajula xivumbeko lexitsono eka buloko yin'wana a yin'wana.

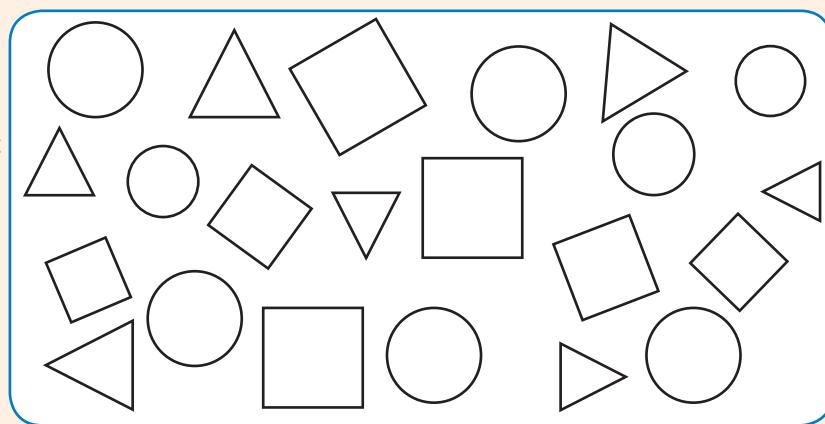


Gwajula xivumbeko lexikulu eka buloko yin'wana a yin'wana.

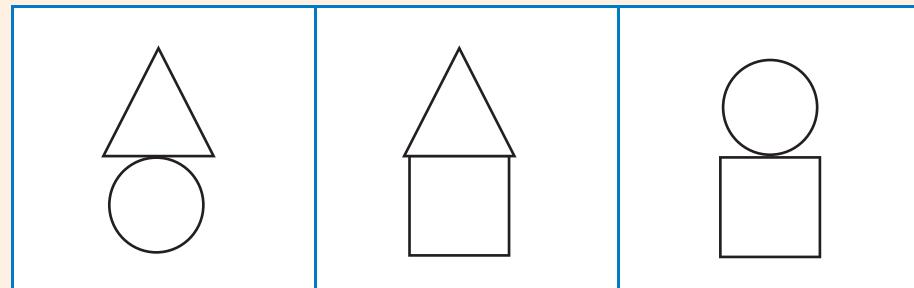


Khalara hinkwaswo:

- swikwere hi muhlovo wa wasi
- tiyinhlanharhu hi muhlovo wo tshwuka
- swirhendzevutana hi muhlovo wa rihlaza



Endla xifaniso hi ku tirhisa swivumbeko. Hi sungule xifaniso hi 2 wa swivumbeko.



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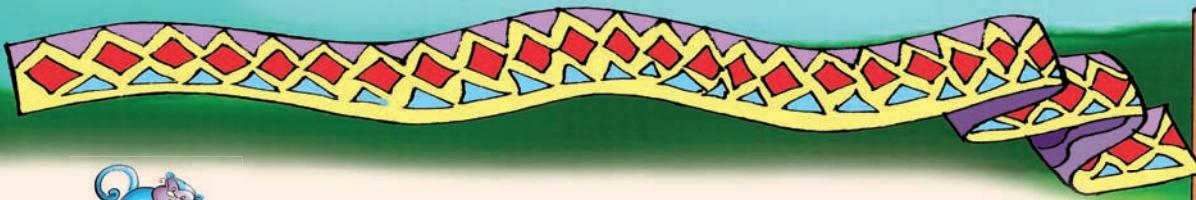
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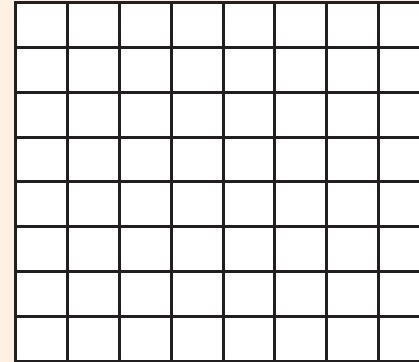
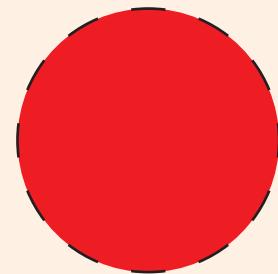
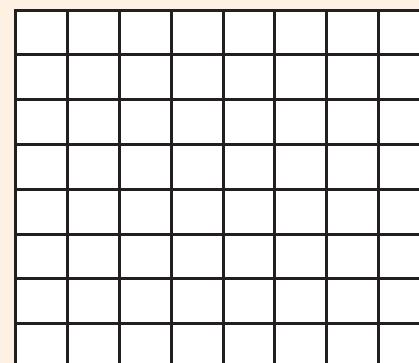
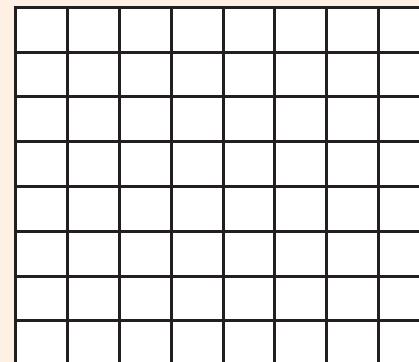
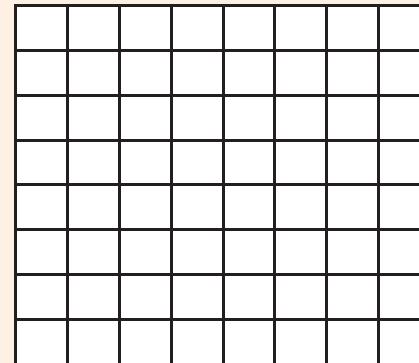
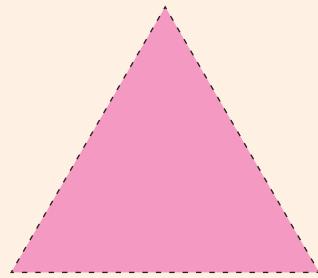
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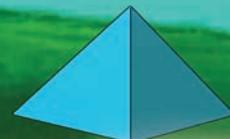
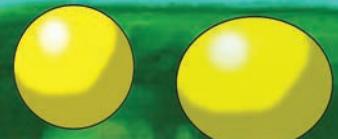
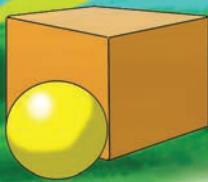
10



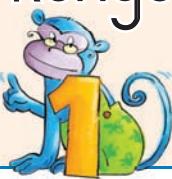
Dirowa swivumbeko endzeni ka giridi.
Tirhisa swikwere leswitsongo ku ku pfuna.



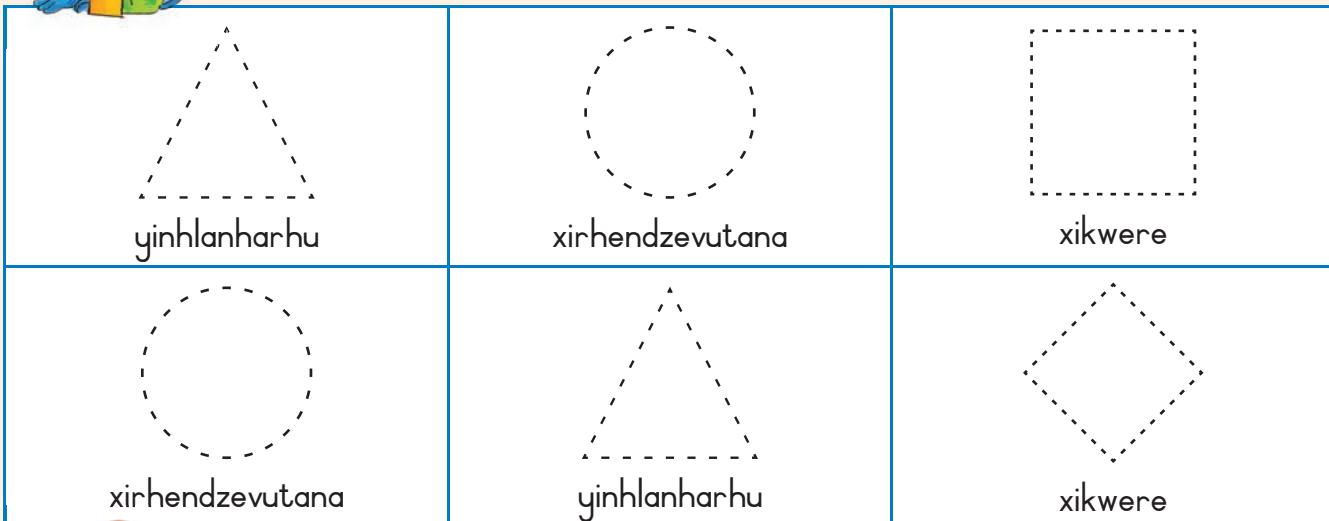
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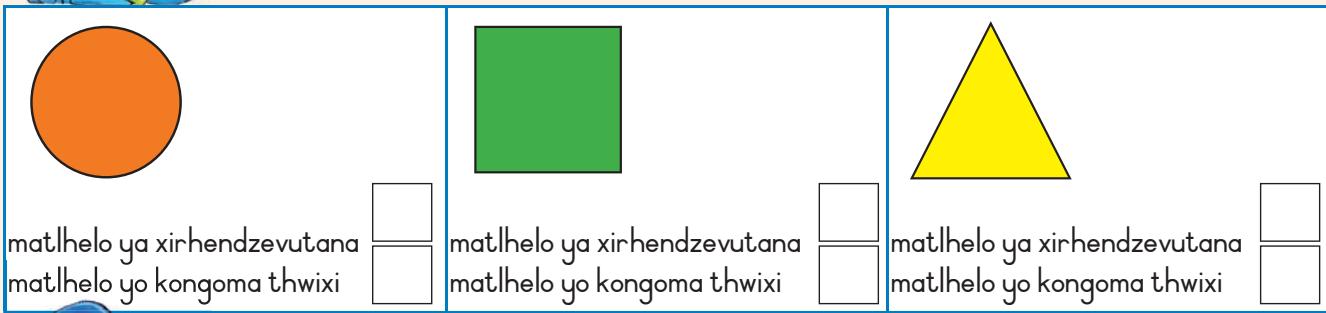
Kotara ya 4



Landzelerisa swivumbeko leswi landzelaka.



Gwajula ku hlamusela loko xivumbeko xi ri na matlheloyo kongoma thwixi kumbe matlheloyya xirhendzevutana.



Dirowa xivumbeko lexi nga na:

matlheloyo kongoma thwixi

matlheloyya xirhendzevutana



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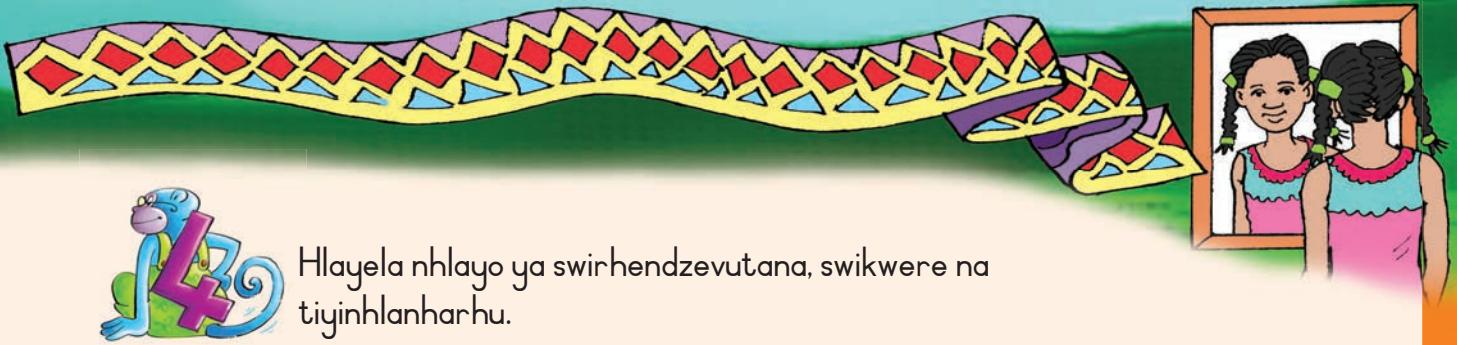
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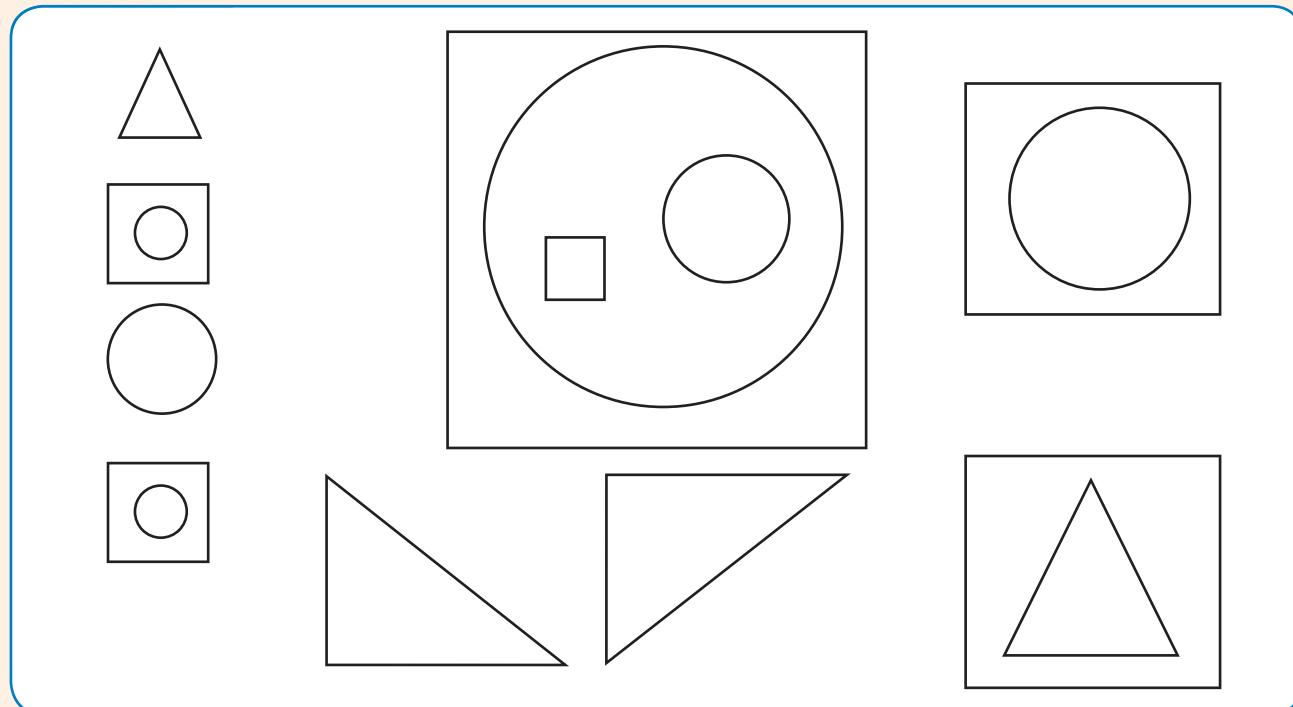
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Hlayela nhlayo ya swirhendzevutana, swikwere na
tiyinhlanhahru.



Xirhendzevutana

Xikwere

Yinhlanharhu



Lava xifaniso eka magazini kumbe phephahungu lexi nga na:

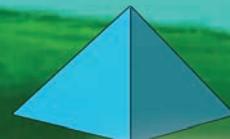
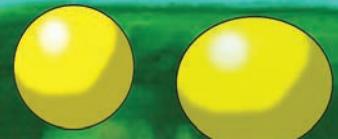
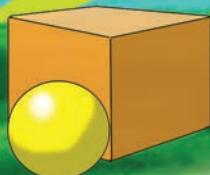
matlhelo ya xirhendzevutana

matlhelo yo kongoma thwixi



Teacher:
Sign:
Date:



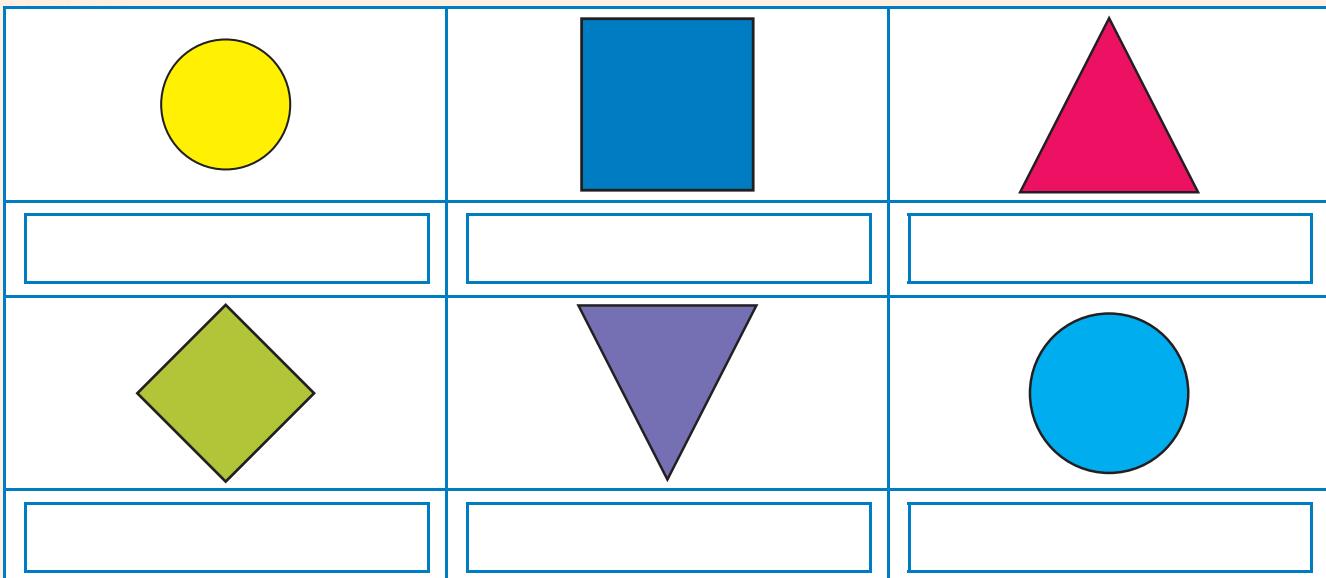


Swivumbeko swin'wana swa 2 wa matlhelo

Kotara ya 4



Nyika mavito ya swivumbeko leswi landzelaka:



Dirowa xifaniso u tirhisa swirhendzevutana, tiyinhlanharhu na swikwere ntsena.



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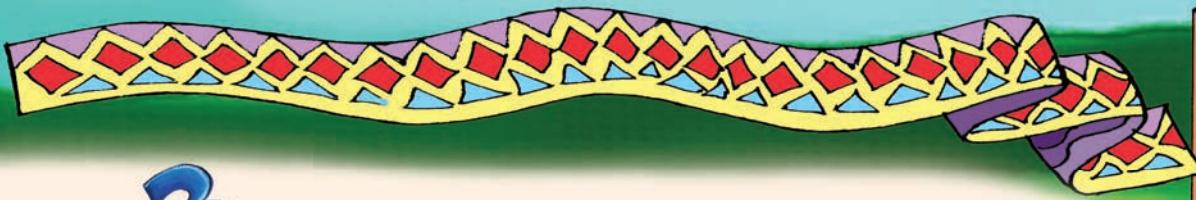
6

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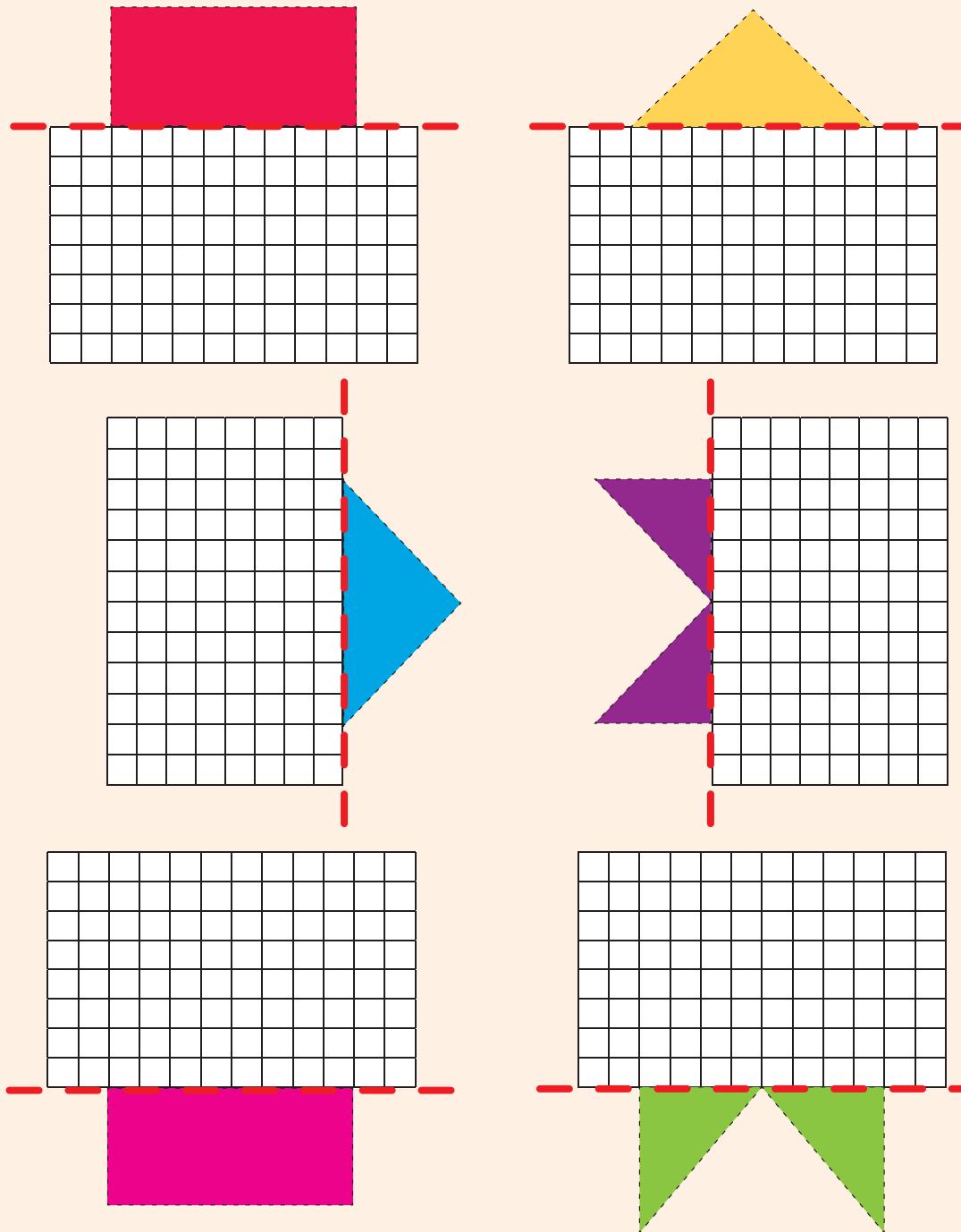
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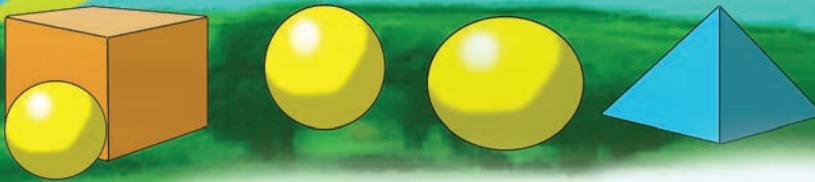
Dirowa hafu yin'wana ya xivumbeko xin'wana na xin'wana.
Tirhiswa swikwere leswitsongo ku ku pfuna.



Hinkwaswo swi na matlhelo yo kongoma thwixi ya xirhendzeyutana.



12



Kotara ya 4



Mintlawa ya vuntlhanu ku fika eka 20

Dirowa swirhendzevutana ku endla mintlawa ya vuntlhanu.
Xana u na mintlawa yingani ya vuntlhanu?

intlawa wa 5

wa mintlawa ya 5

wa mintlawa ya 5

wa mintlawa ya 5



Hlayela nhlayo ya tintiho. Tsala nhlamulo ya wena.



$5 + 5 + 5 =$



$5 + 5 + 5 + 5 =$



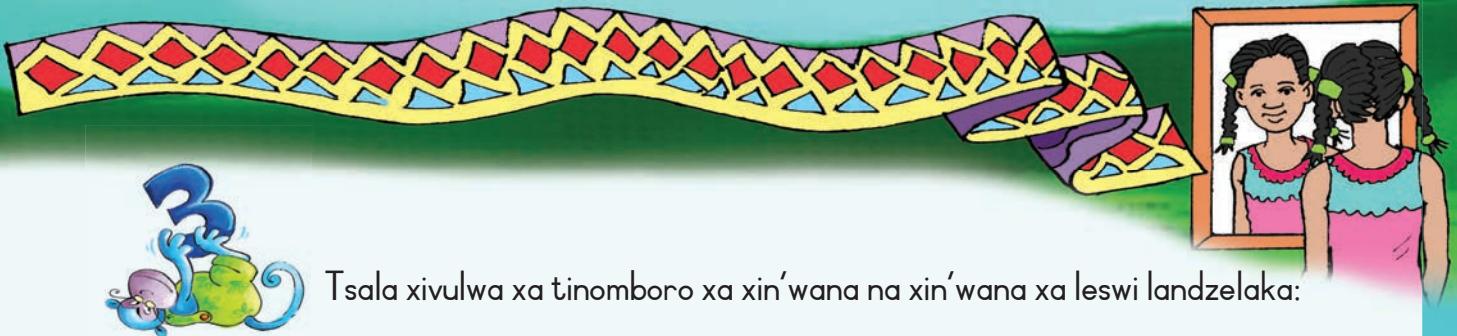
$5 + 5 + 5 + 5 + 5 =$



$5 + 5 + 5 + 5 + 5 + 5 =$



96



Tsala xivulwa xa tinomboro xa xin'wana na xin'wana xa leswi landzelaka:

<input type="text"/>	<input type="text"/>	<input type="text"/>
		<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>



Hlamula swivutiso leswi landzelaka.



Xana u vona swingwece
swa 5c swingani?

Swi tsale tanihi xivulwa
xa tinomboro.

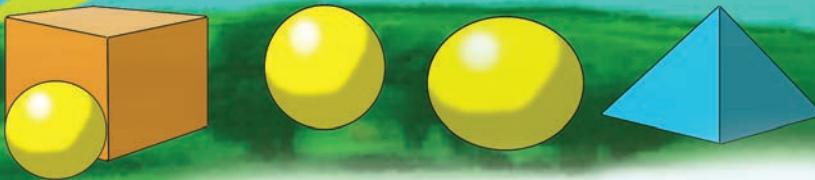


Tatisa tinomboro leti siyiweke.

I	2	3	4		6	7	8	9	
II	I2	I3	I4		I6	I7	I8	I9	



13

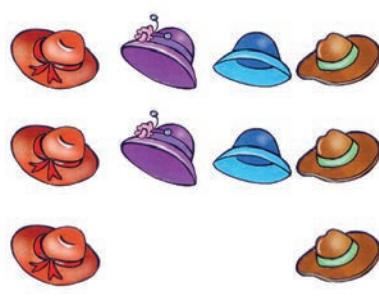
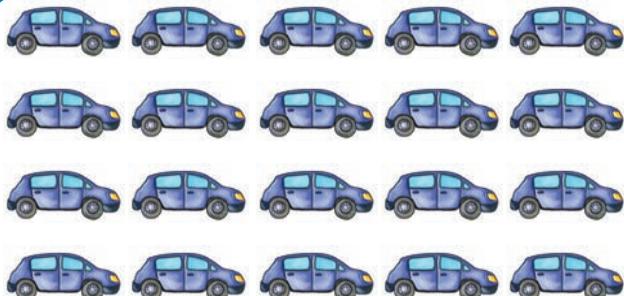
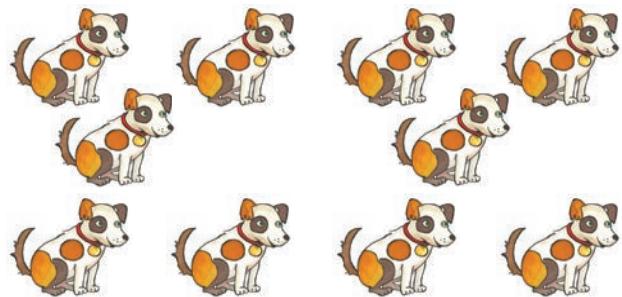


Kotara ya 4



Vunthalanu – ku hlanganisa ko vuyeleta ku fika eka 20

Endla mintlawa ya vunthalanu u tlhela u tsala xivulwa xa tinomboro.



Dirowa mintlawa ya swivumbeko ku kombisa swivulwa swa tinomboro.

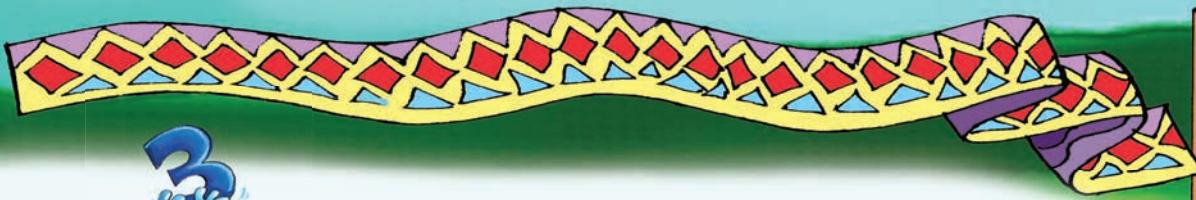
$$5 \quad + \quad 5 \quad + \quad 5 = \quad \square$$

$$5 \quad + \quad 5 \quad + \quad 5 \quad + \quad 5 = \quad \square$$



98

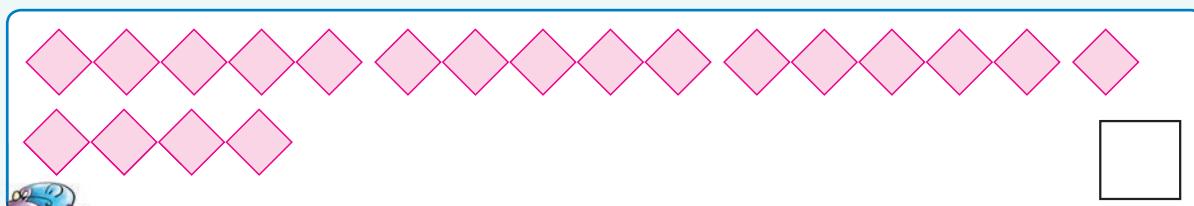
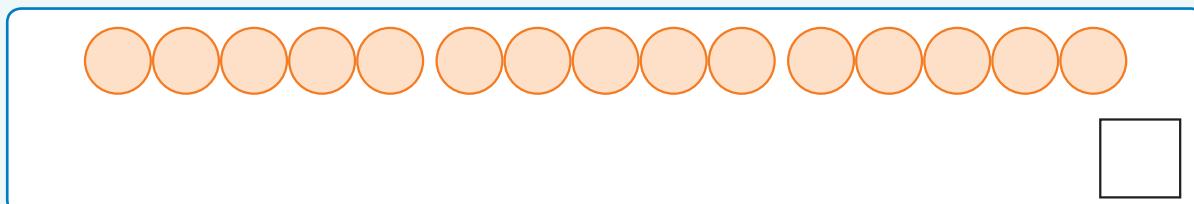
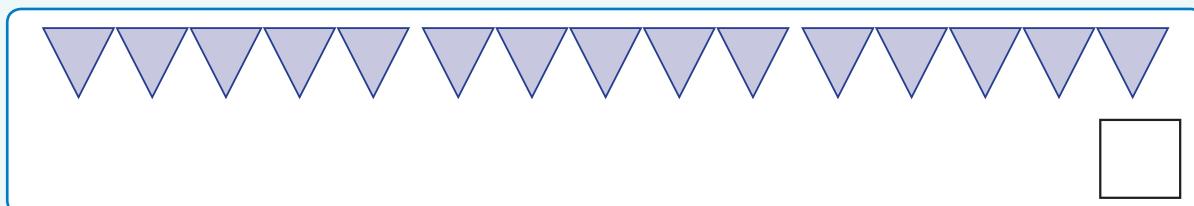
0 1 2 3 4 5 6 7 8 9 10



Tsala xivulwa xa tinomboro xa xin'wana na xin'wana
xa leswi landzelaka:




$$5 + 5 = \boxed{}$$



U hlayele tinomboro ta vunlhangu kanqani? _____

I	2	3	4	5	6	7	8	9	10
II	12	13	14	15	16	17	18	19	20

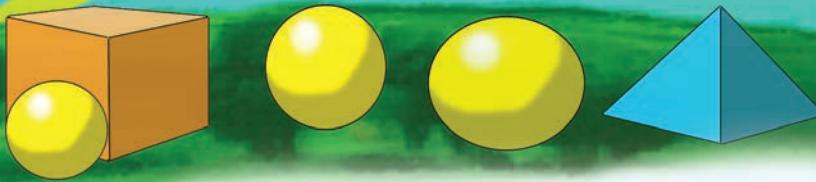


Ku na swandla swinharhu efasitereni. Xana ku na tintiho tingani efasitereni?

Dirowa xifaniso u tlhela u tsala xivulwa xa tinomboro.



14



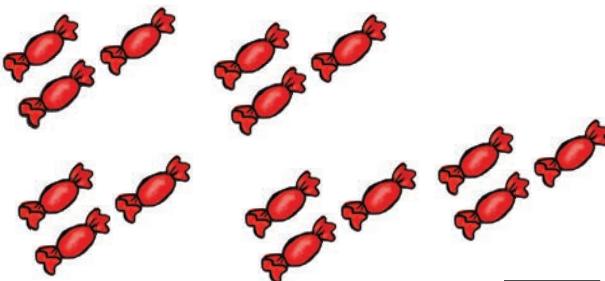
Ku ava ku fika eka 20

Kotara ya 4

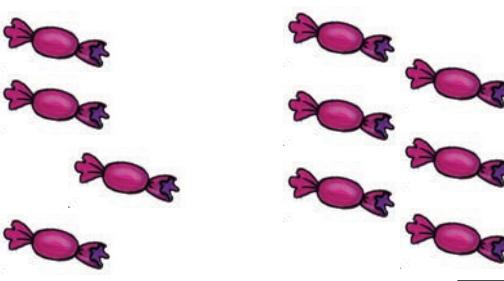


Ava malekere exikarhi ka vanghana va ntlhanu.

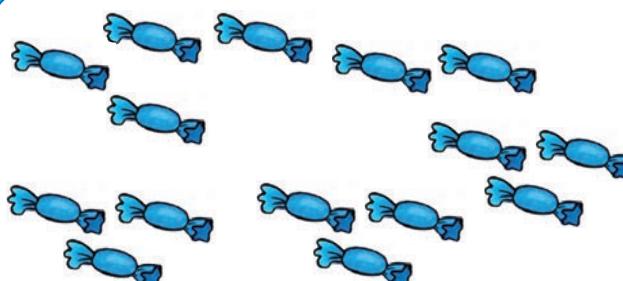
Xana un'wana na un'wana u ta kuma malekere mangani?



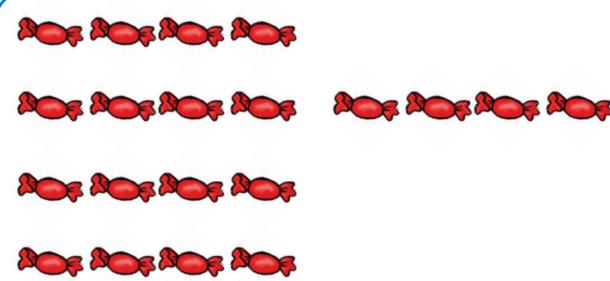
Munghana un'wana na un'wana
u ta kuma malekere ya



Munghana un'wana na un'wana
u ta kuma malekere ya



Munghana un'wana na un'wana
u ta kuma malekere ya



Munghana un'wana na un'wana
u ta kuma malekere ya

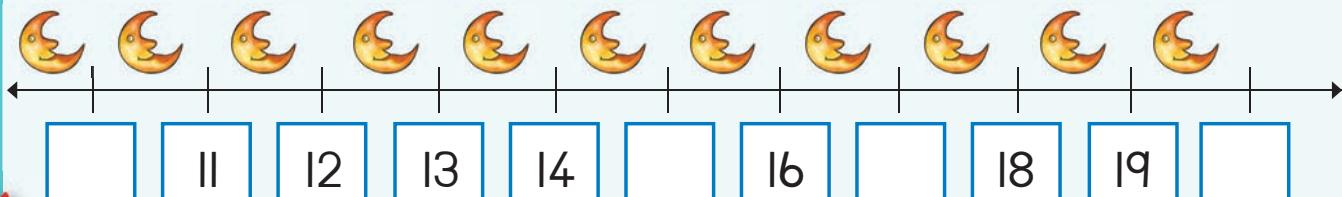


Khalara miandziso ya ntlhanu.

I	2	3	4	5	6	7	8	9	10
II	I2	I3	I4	I5	I6	I7	I8	I9	20

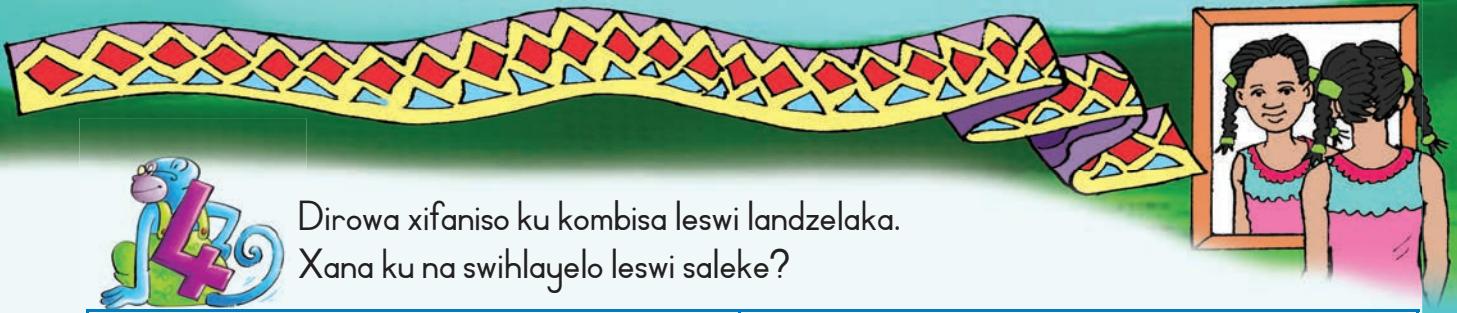


Tatisa tinomboro leti siyiweke.



100

0 | 2 3 4 5 6 7 8 9 10



Dirowa xifaniso ku kombisa leswi landzelaka.
Xana ku na swihlayelo leswi saleke?

Ava 10 wa swihlayelo exikarhi ka vana va ntlhanu.

Ku na wa swihlayelo leswi saleke.

Ava 11 wa swihlayelo exikarhi ka vana va ntlhanu.

Ku na wa swihlayelo leswi saleke.

Ava 6 wa swihlayelo exikarhi ka vana va ntlhanu.

Ku na wa swihlayelo leswi saleke.

Ava 16 wa swihlayelo exikarhi ka vana va ntlhanu.

Ku na wa swihlayelo leswi saleke.



Tsala xivulwa xa tinomboro xa xin' wana na xin' wana xa leswi landzelaka:



$$5 + 5 =$$

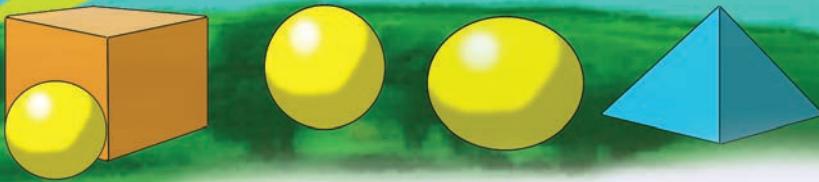








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Kotara ya 4

Tipatironi ta tinomboro – vuntlhanu ku fika eka 100



Hetisa patironi hi ku khalara minyandzisiwa ya ntłhanu.

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



Dirowa tihupu ku kombisa leswi landzelaka:

86, 88, 90



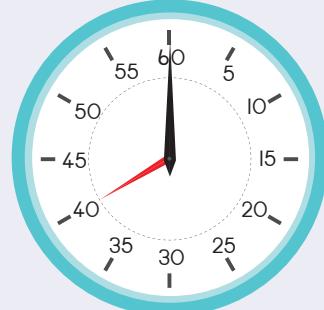
70, 75, 80



55, 60, 65, 70



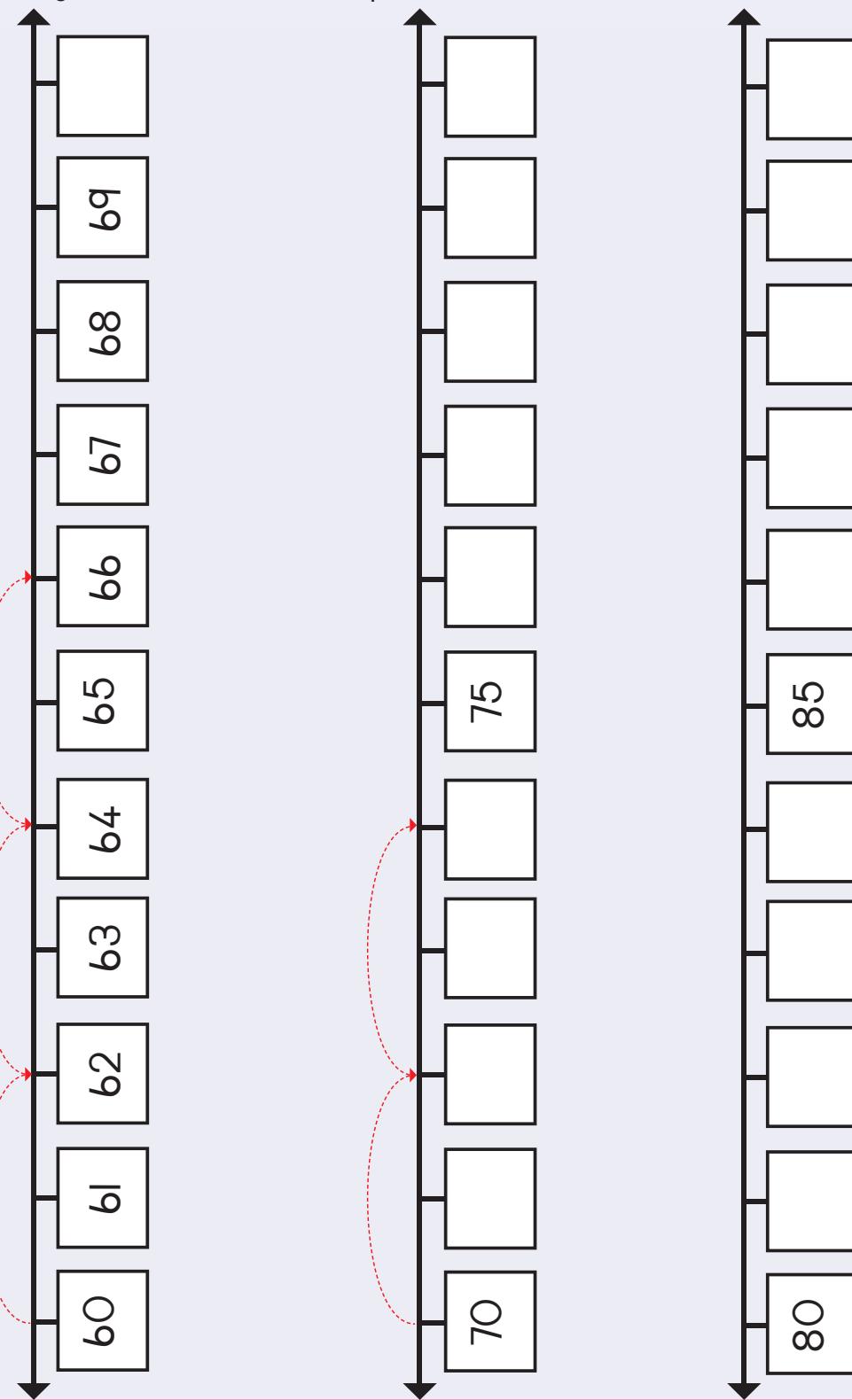
Tirhiswa wachi ku kombisa ku hlayela
timinete hi vuntlhanu.



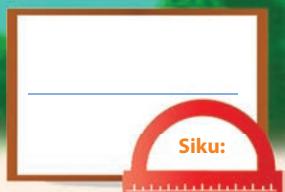
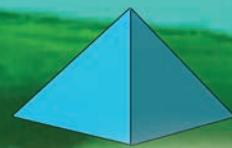
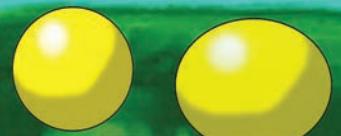
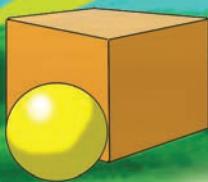
0 1 2 3 4 5 6 7 8 9 10



Veka tinomboro to huma eka Xitsemiwa xa 2 eka
tindhawu leti ku siyiweke tinomboro eka mindzhati ya
mintsengo. Tlhela u hetisa na tihupu.



16



Kotara ya 4



Yelanisa emahlweni na le ndzhaku ka xiharhi xin'wana na xin'wana.

Xiyimo na tlhelo

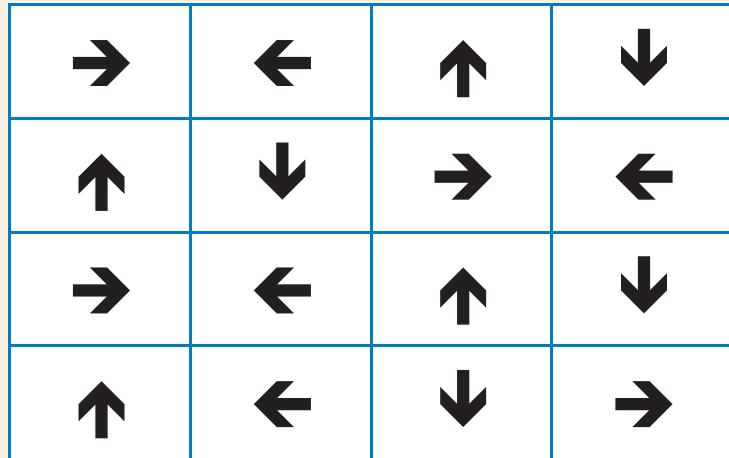
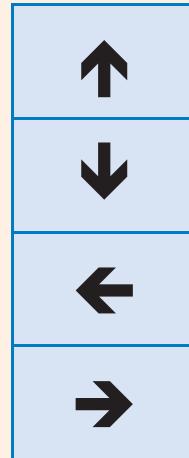
Emahlweni



Endzhaku



Bana xirhendzeyutana eka nseve lowu yelanaka na nseve lowu nga dzwhatiwa.



104

0

1

2

3

4

5

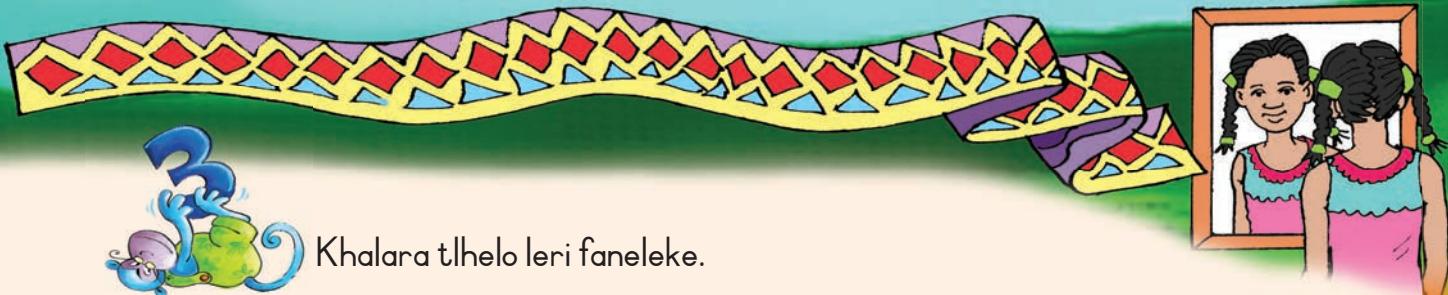
6

7

8

9

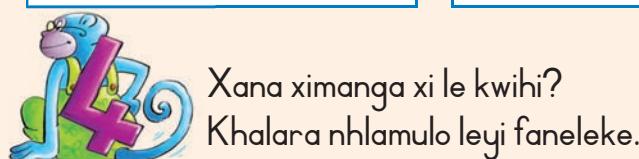
10



Tlhelo ra le henhla
Tlhelo ra le matlhelo
Tlhelo ra le mahlweni

Tlhelo ra le henhla
Tlhelo ra le matlhelo
Tlhelo ra le mahlweni

Tlhelo ra le ndzhaku
Tlhelo ra le matlhelo
Tlhelo ra le mahlweni



Endzhaku
Emahlweni
Ekusuhi na

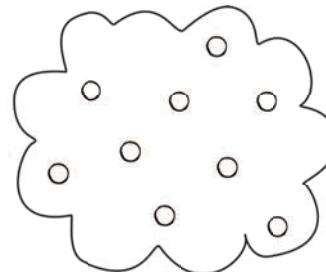
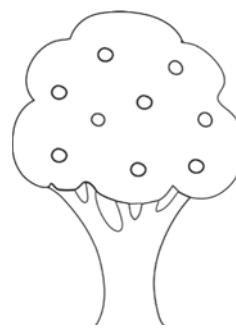
Endzhaku
Emahlweni
Ekusuhi na

Endzhaku
Emahlweni
Ekusuhi na

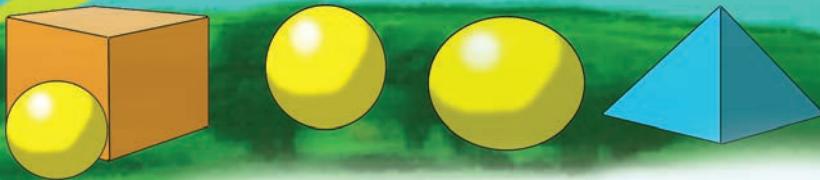


Languta swifaniso
swa mirhi.

Khalara tlhelo ra le
henhla.



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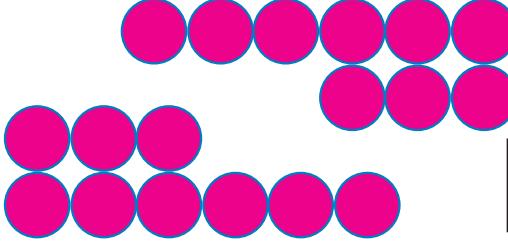
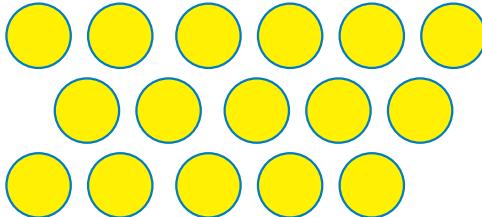
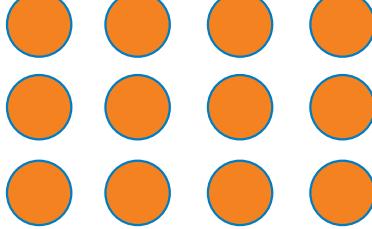
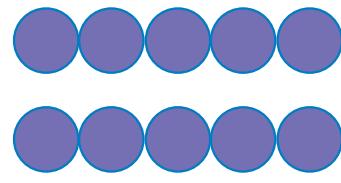
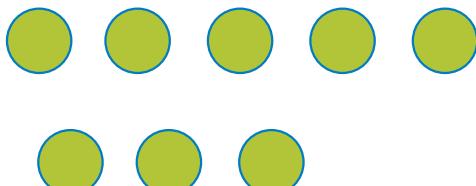
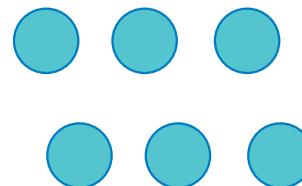


Kotara ya 4

Mintlawa ya vumbirhi ku fika eka 20



Endla mintlawa ya vumbirhi. Tsala leswaku i mintlawa yingani leyi nga kona.



Endla mintlawa ya vumbirhi. Dirowa mintlawa.



0

1

2

3

4

5

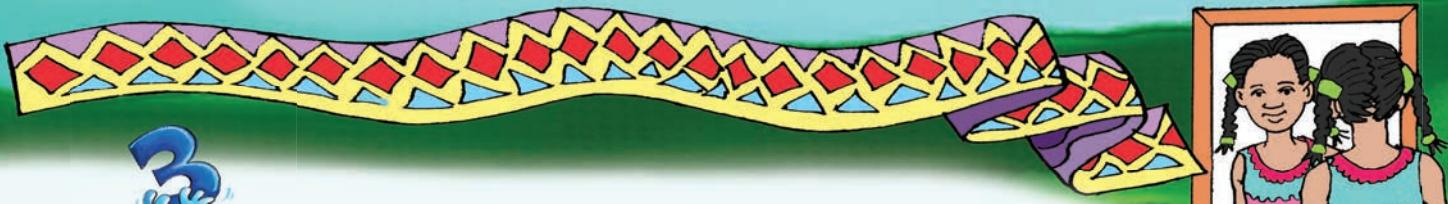
6

7

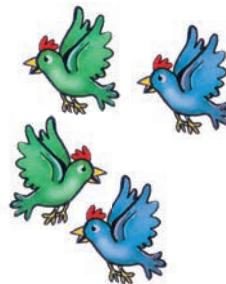
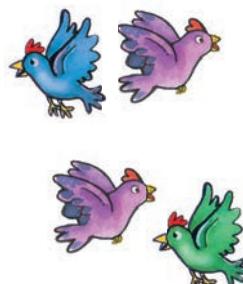
8

9

10



Hlamula swivutiso leswi landzelaka.



Ku na swinyenyana swingani?

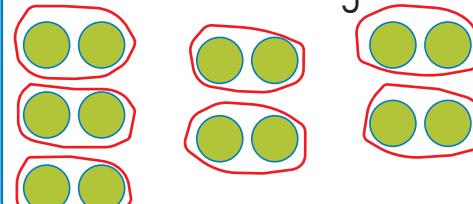
I mintlawa yingani ya swimbirhi leyi u nga kotaka ku yi endla?

Tsala xivilwa xa tinomboro.



Dirowa swirhendzeyutana ku endla leswi landzelaka.

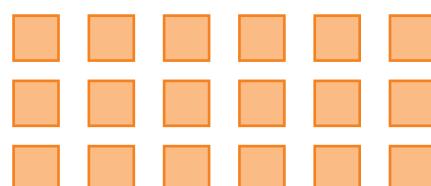
7 wa mintlawa ya 2



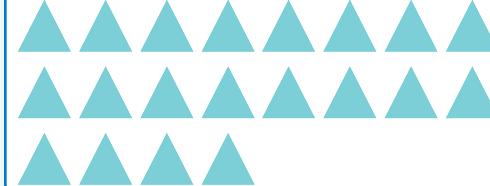
8 wa mintlawa ya 2



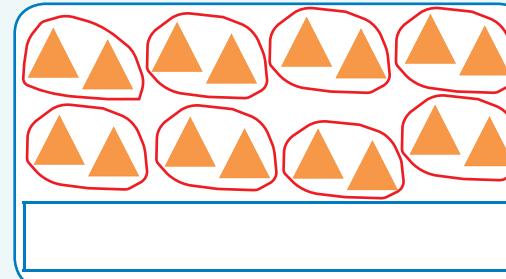
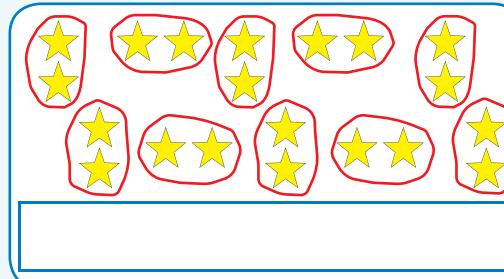
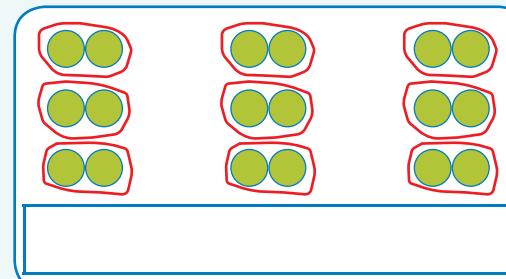
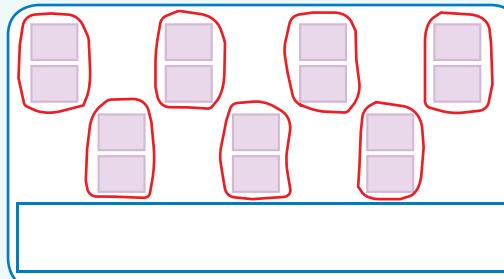
9 wa mintlawa ya 2



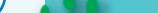
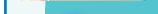
10 wa mintlawa ya 2



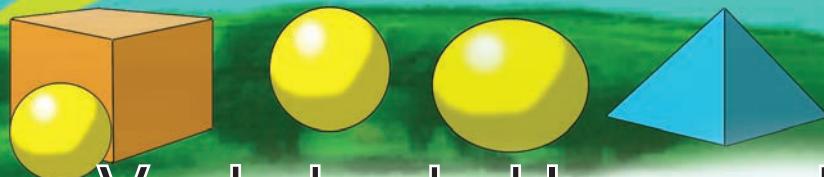
Tsala xivilwa xa tinomboro xa leswi landzelaka.



Teacher:
Sign:
Date:



18



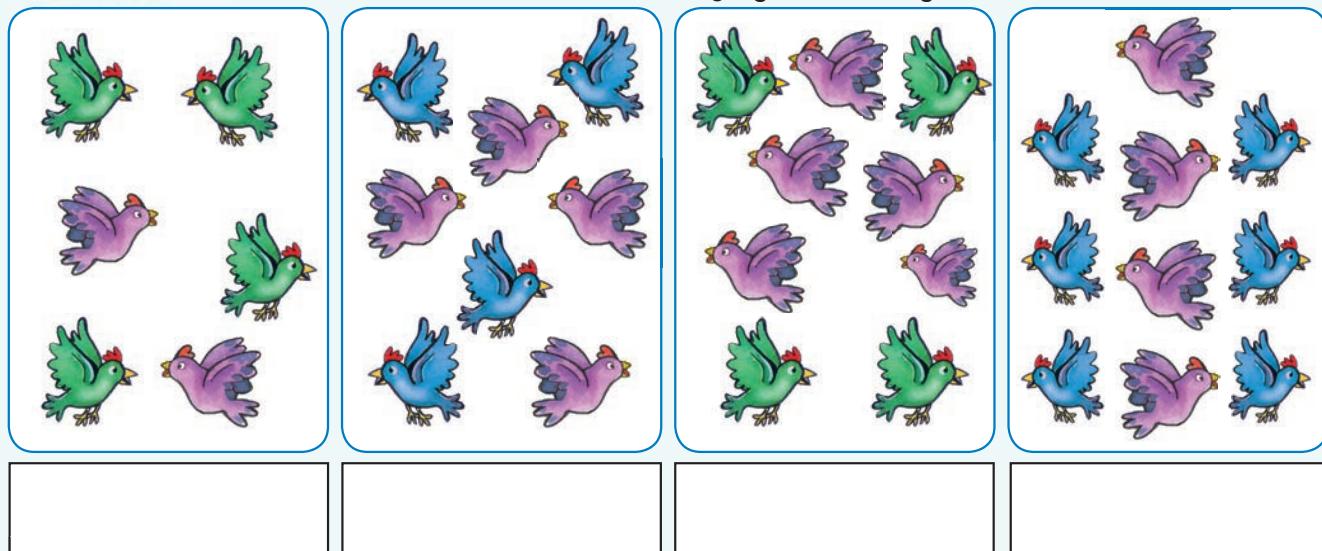
Vumbirhi – ku hlanganisa ko vuyelela ku fika eka 20

Kotara ya 4



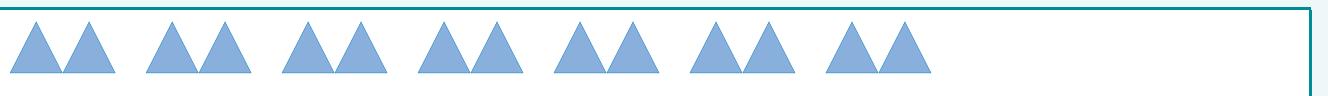
Xana ku na milenge yingani?

Tsala xivulwa xa tinomboro xa milenge yin'wana na yin'wana.



Dirowa swivumbeko swa leswi landzelaka:

$$2 + 2 + 2 + 2 + 2 + 2 + 2 = 14$$



$$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$



$$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$



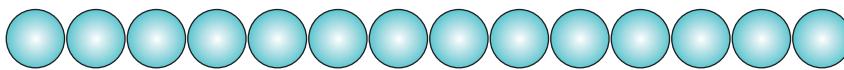
$$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$



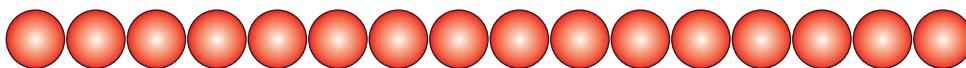
108

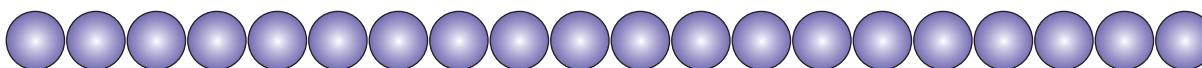


Tsala xivulwa xa tinomboro xa leswi landzelaka:



$$2 + 2 + 2 + 2 + 2 + 2 + 2 = \boxed{\quad}$$









Khalara minyandzisiwa ya mbirhi.

I	2	3	4	5	6	7	8	9	10
II	12	13	14	15	16	17	18	19	20

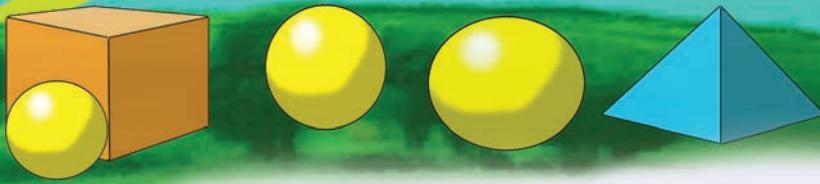


Ndzi na 6 wa maphakete lama nga na 2 wa malekere eka rin' wana na rin' wana. Xana ndzi na malekere mangani? Dirowa xifaniso u tlhela u tsala xivulwa xa tinomboro.

Ndzi na wa malekere.



19



Kotara ya 4



Hetisa patironi
hi ku khalara
tinomboro.

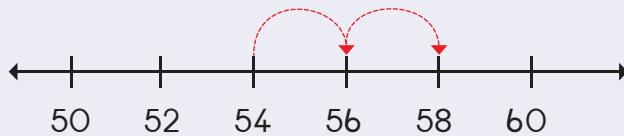


Patironi ya tinomboro – vumbirhi ku fika eka 100

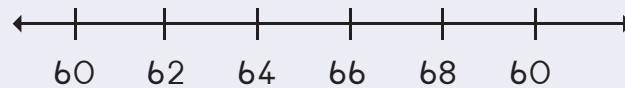
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Dirowa tihupu ku kombisa leswi landzelaka:

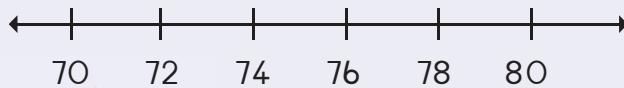
54, 56, 58



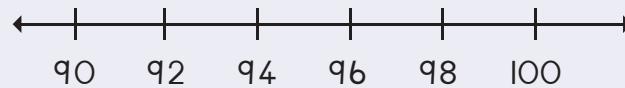
64, 66, 68



74, 76, 78



94, 96, 98

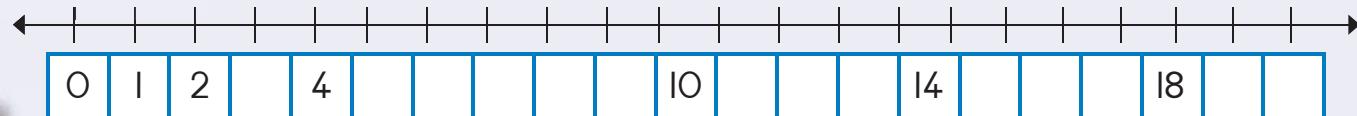


Tatisa tinomboro leti siyiweke. Khalara patironi: 2, 4...

I			3				7			10
II							17			20



Hetisa ndzhati wa mintsengo.



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



Tsema tinomboro eka Xitsemiwa xa 2 kutani u ti veka eka
ndzhati wa mintsengo laha ku siyiweke tinomboro.
Tlhela u hetisa na tihupu.

Tlhela u hetisa na tihupu.

A vertical black arrow points upwards, representing a linked list. Along the arrow, there are nine rectangular boxes, each containing a number from 60 to 69. The boxes are arranged such that the number 60 is at the bottom and 69 is at the top. Each box is connected by a horizontal line to the next box in sequence. A red dashed arrow starts at the bottom left of the box containing 60 and curves upwards and to the right, pointing towards the top left of the box containing 69.

89
87
85
83
81
80

A vertical sequence of five rectangular boxes, each containing a label q_i where i is an integer from 0 to 4. A thick black arrow points upwards through the boxes. A dashed red arrow originates from the right side of the q_4 box and loops back down to the left side of the q_0 box.



Teacher:

Sign:

Date:

1

12

13

14

15

16

17

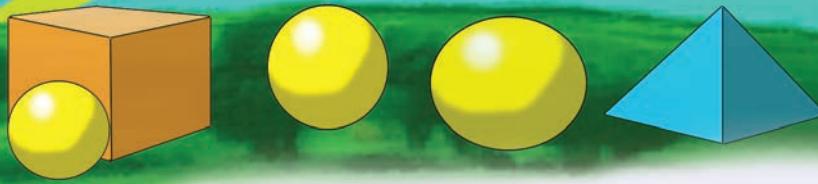
18

19

20



120

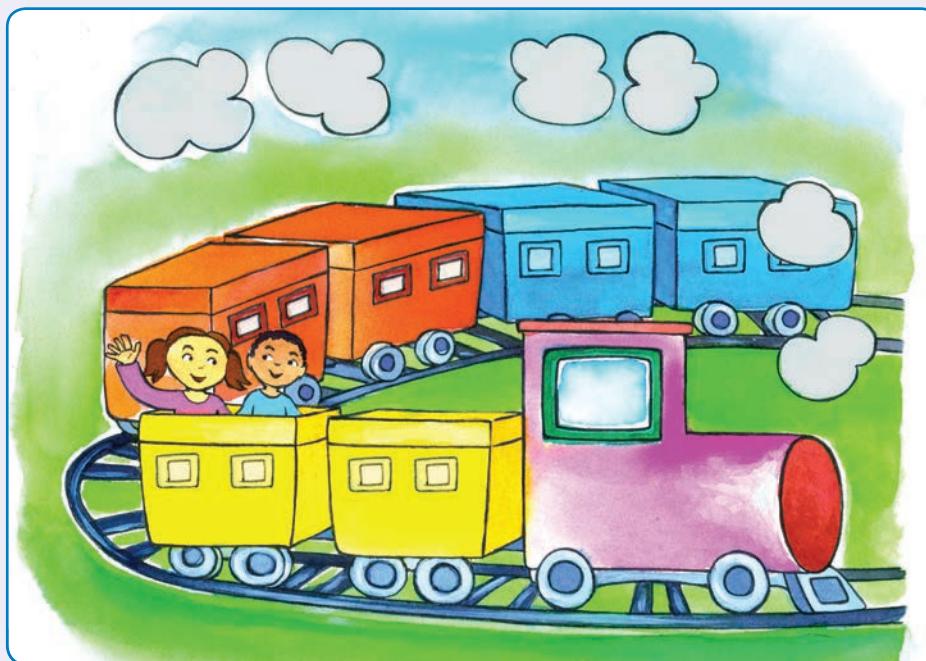


Kotara ya 4



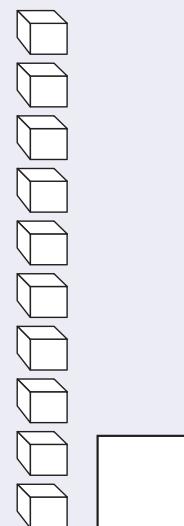
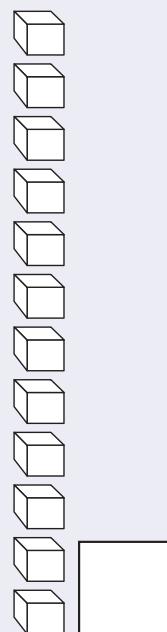
Tipatironi ta tinomboro – vumbirhi ku fika eka 100

Xana u kota ku vona patironi ya swimbirhi?

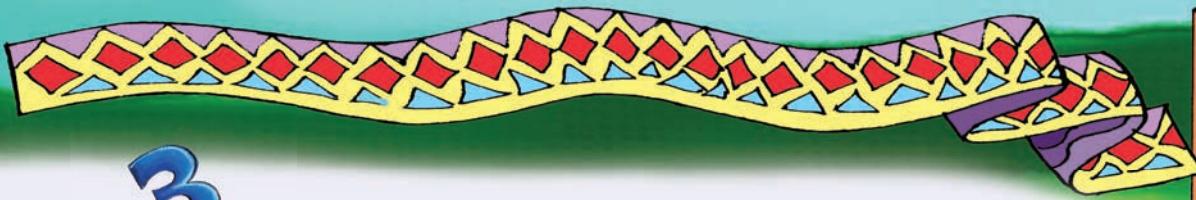


Khalara tibuloko ku kombisa mintlawa ya vumbirhi.

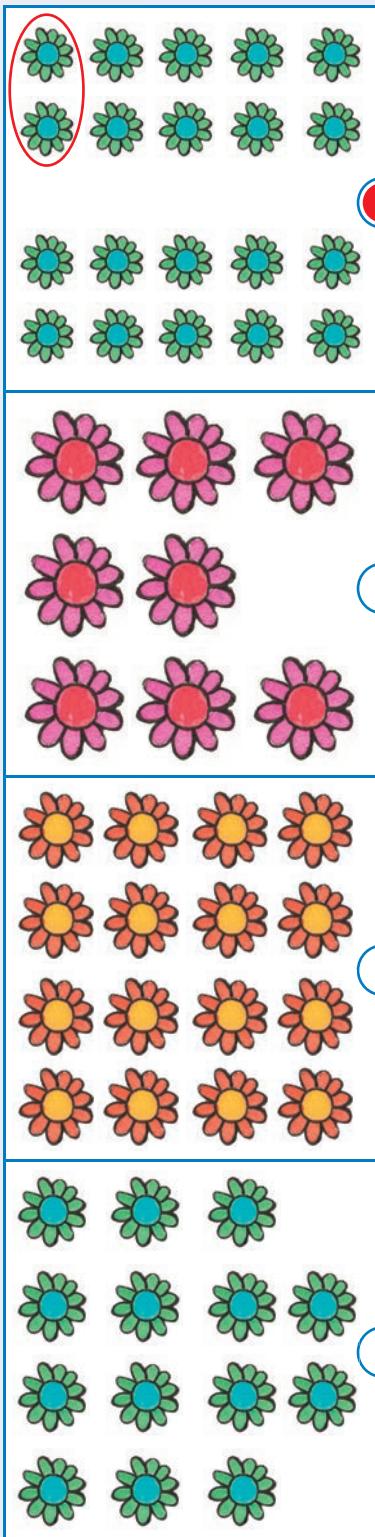
Hlayela leswaku i mintlawa yingani leyi nga kona.

 4

0 1 2 3 4 5 6 7 8 9 10



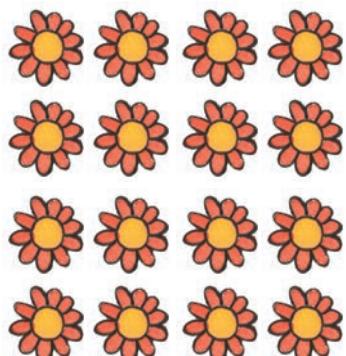
Yelanisa mintlawa ya swimbirhi na xivulwa xa
tinomboro hi ku dirowa ntila.



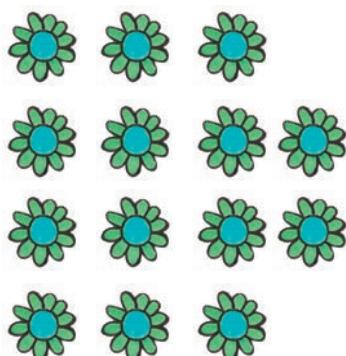
$$2 + 2 + 2 + 2 = 8$$



$$2 + 2 + 2 + 2 + 2 + 2 + 2 = 14$$



$$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 20$$



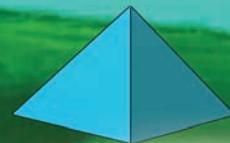
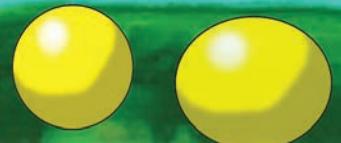
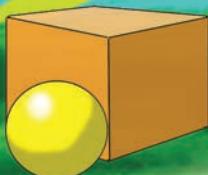
$$2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 16$$



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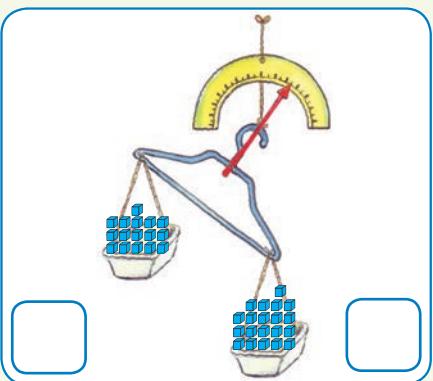
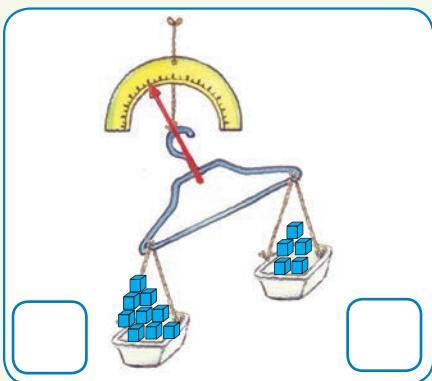
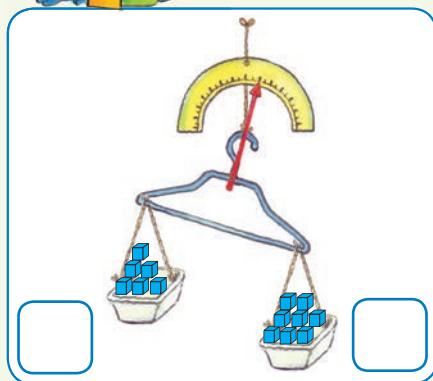


Kotara ya 4

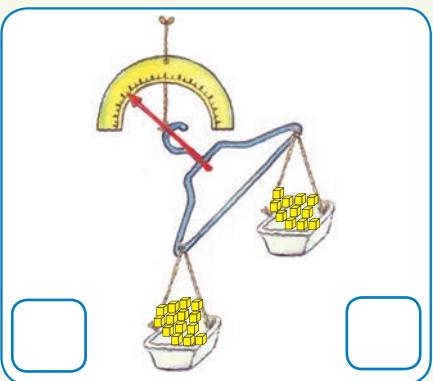
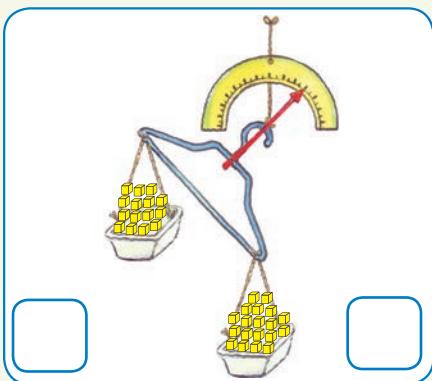
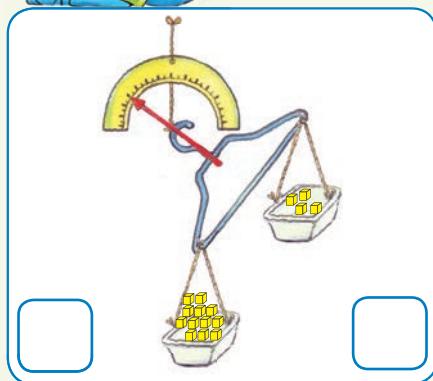
Masa (ntiko)



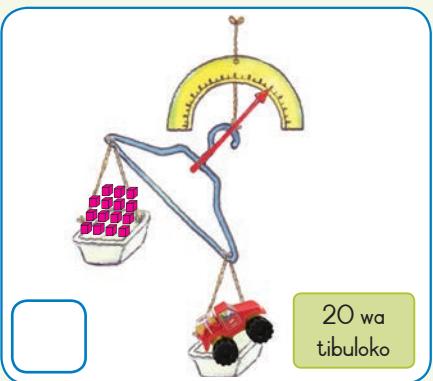
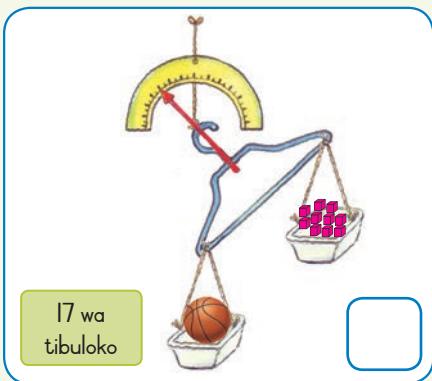
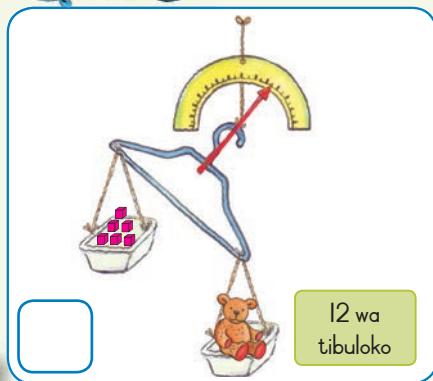
Tsala leswaku ku na tibuloko tingani eka xibye xin'wana na xin'wana.
Bana xirhendzevutana eka xibye lexi tikaka.



Tsala leswaku ku na tibuloko tingani eka xibye xin'wana na xin'wana.
Bana xirhendzevutana eka xibye lexi vevukaka.



Hlayela leswaku i tibuloko tingani leti nga kona. Kuma leswaku ku laveka tibuloko
tin'wana tingani leswaku ti kota ku balansisa xitlangiso. Hi ku byela leswaku
xitlangiso xi na ntiko wa tibuloko tingani.



0

1

2

3

4

5

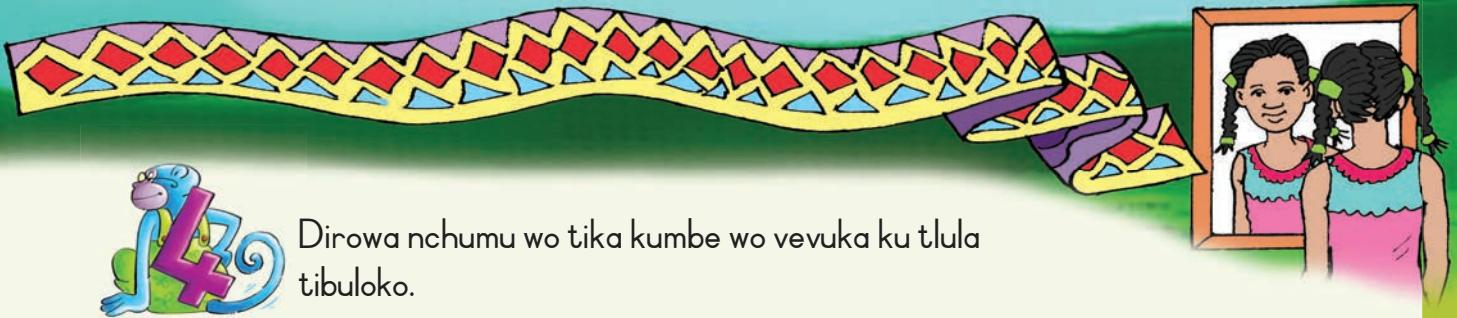
6

7

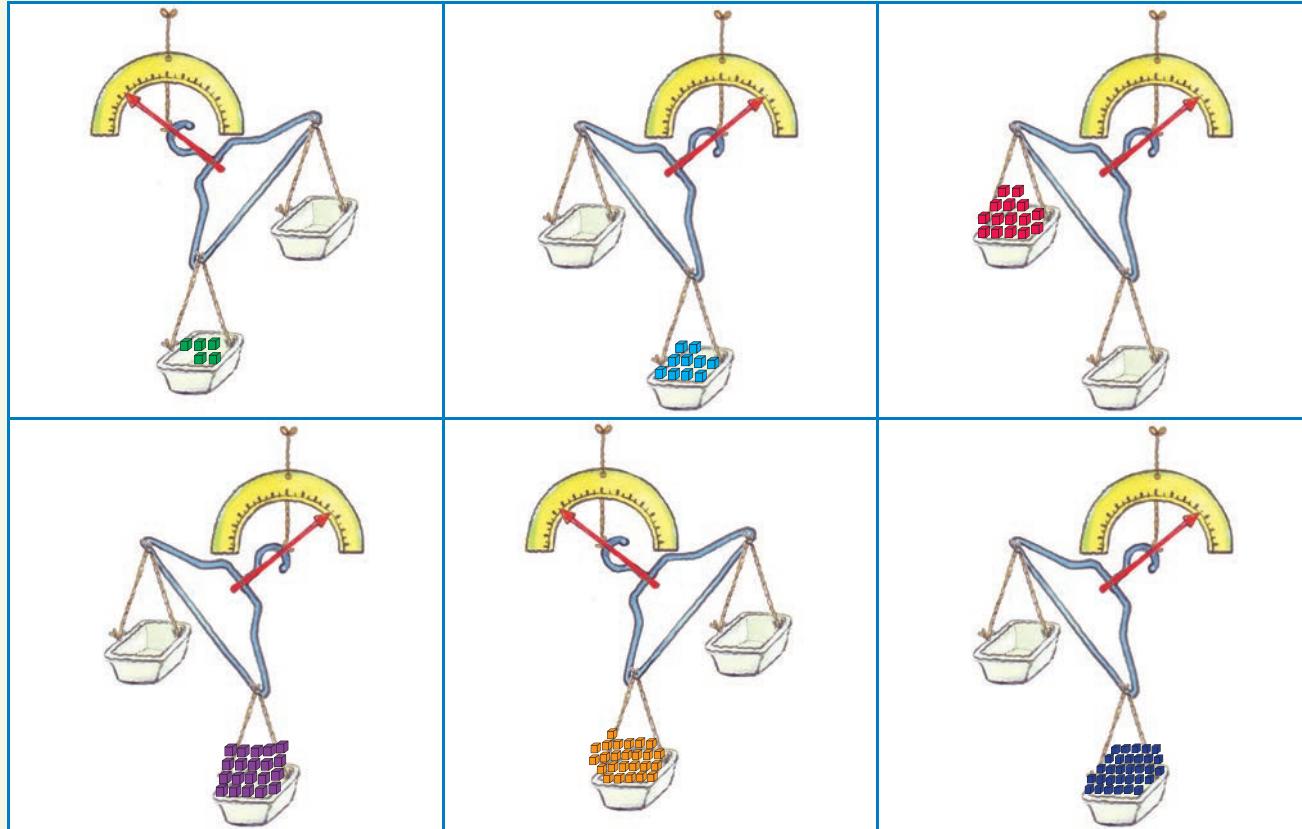
8

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10



Dirowa nchumu wo tika kumbe wo vevuka ku tlula
tibuloko.



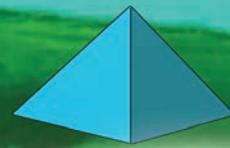
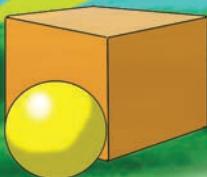
Tirhisa 5 wa minchumu eka desika ra wena. Rhanga u pimanyeta ntiko kutani
endzhaku u pima eka xikalu kumbe u yi balansa ku kambisia loko mpimanyeto wa
wena wu lulamile.

Dirowa xanchumu	Bvumba	Masa	Ku hambana
	___ wa tibuloko	___ wa tibuloko	___ - ___ = ___



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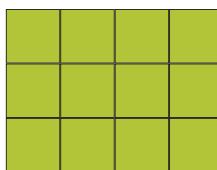
Kotara ya 4

Ku mbirhihata

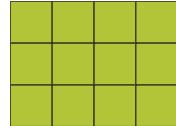
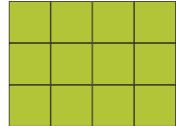


Hlamula swivutiso leswi landzelaka:

Ku na swikwere swingani?

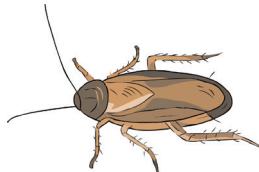


Ku na swikwere swingani sweswi?



Hi vula leswaku 12 kambirhi i 24.

Ku na milenge yingani?



Ku na milenge yingani sweswi?

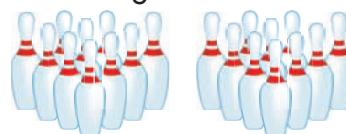


Hi vula leswaku 6 kambirhi i

Ku na swikitele swingani?



Ku na swikitele swingani sweswi?



Hi vula leswaku 10 kambirhi i

Ku na masiku mangani evhikini?

S	M	T	W	T	F	S

Ku na masiku mangani eka mavhiki

mambirhi?

S	M	T	W	T	F	S

Hi vula leswaku 7 kambirhi i

Ku na tikhirayoni tingani?



Ku na tikhirayoni tingani sweswi?



Hi vula leswaku 8 kambirhi i



0

1

2

3

4

5

6

7

8

9

10



Tatisa
nhlamulo.

4 kambirhi	=	8
10 kambirhi	=	
11 kambirhi	=	
2 kambirhi	=	
6 kambirhi	=	



Tatisa nhlamulo.

Mbirhi kambirhi i	mune
Nharhu kambirhi i	
Mune kambirhi i	
Ntlhanu kambirhi i	
Ntsevu kambirhi i	
Nkombo kambirhi i	



Hetisa tafula leri landzelaka.

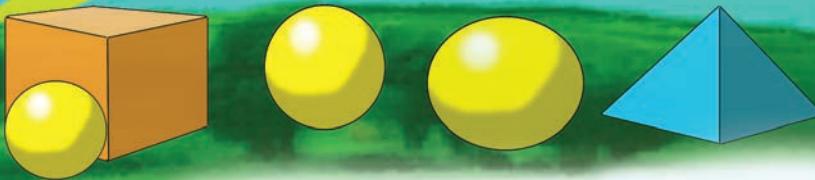
$9 + 9 + 1 =$	<input type="text"/>	kumbe	Mbirnihata $9 + 1 =$	<input type="text"/>
	<input type="text"/>	kumbe	Mbirnihata $8 + 1 =$	<input type="text"/>
$10 + 10 + 1 =$	<input type="text"/>	kumbe		<input type="text"/>
$7 + 7 + 1 =$	<input type="text"/>	kumbe	Mbirnihata $7 + 1 =$	<input type="text"/>



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Date:



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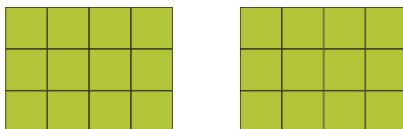
Ku hafula

Kotara ya 4

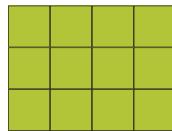


Hlamula swivutiso leswi landzelaka:

Ku na swikwere swingani?

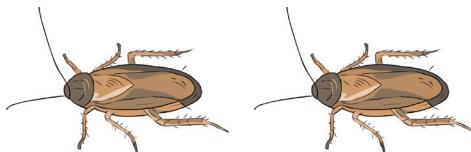


Ku na swikere swingani sweswi?

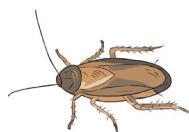


Hi vula leswaku hafu ya 24 i 12.

Ku na milenge yingani?

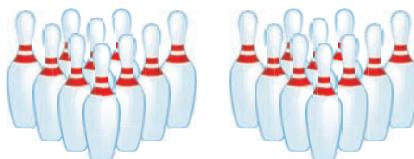


Ku na milenge yingani sweswi?



Hi vula leswaku hafu ya 12

Ku na swikitele swingani?



Ku na swikitele swingani sweswi?



Hi vula leswaku hafu ya 20 i

Ku na masiku mangani eka 2

wa mavhiki?

S	M	T	W	T	F	S	S	M	T	W	T	F	S

Ku na masiku mangani eka vhiki rin'we?

S	M	T	W	T	F	S

Hi vula leswaku hafu ya 14 i

Ku na tikhirayoni tingani?



Ku na tikhirayoni tingani sweswi?



Hi vula leswaku hafu ya 16 i



0

1

2

3

4

5

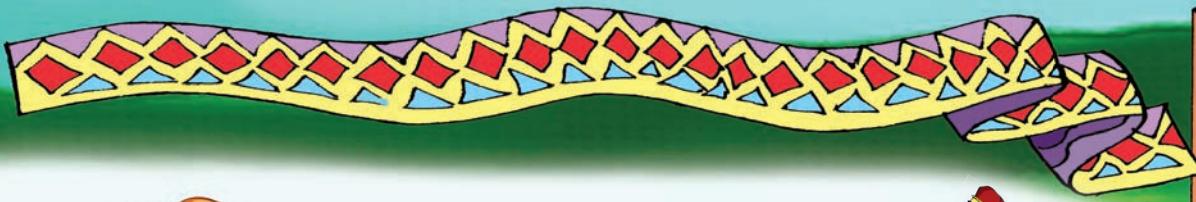
6

7

8

9

10



Tatisa nhlamulo
leyi faneleke.

Hafu ya 8	=	4
Hafu ya 10	=	
Hafu ya 6	=	
Hafu ya 12	=	
Hafu ya 14	=	



Tatisa nhlamulo leyi faneleke.

Hafu ya mune i	mbirhi
Hafu ya ntsevu i	
Hafu ya mbirhi i	
Hafu ya nhungu i	
Hafu ya khume i	



Tatisa nhlamulo leyi faneleke.

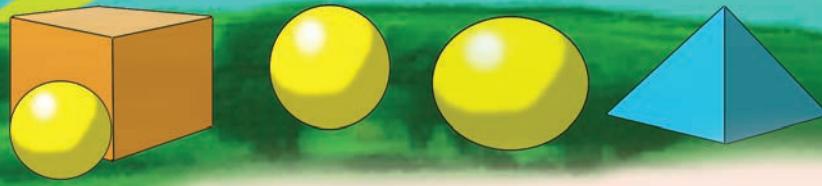
Hafu ya 10 i	5
Hafu ya 12 i	
Hafu ya 14 i	
Hafu ya 16 i	
Hafu ya 18 i	



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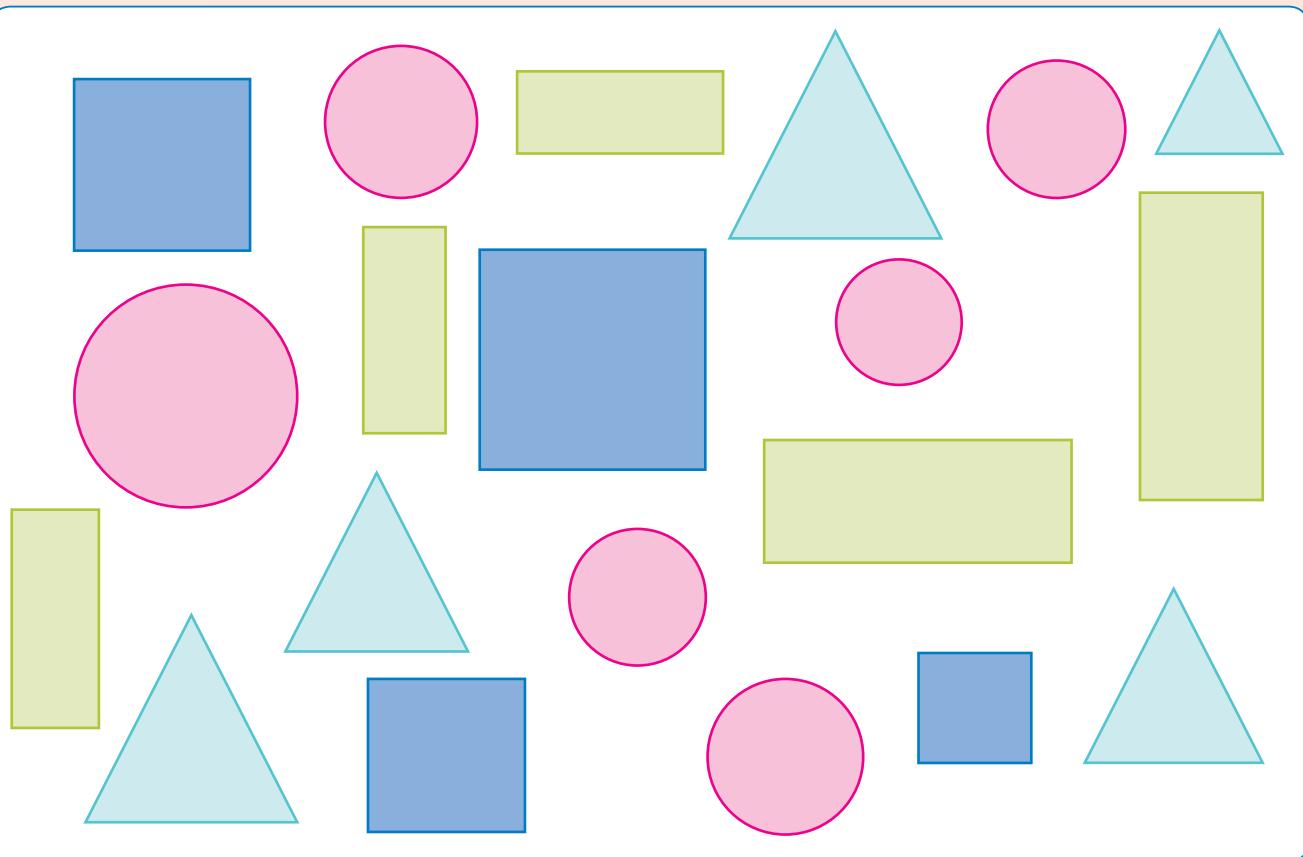


Switiviwa

Kotara ya 4



Hlayela leswaku ku na swivumbeko swo hambana swingani kutani u hlamula swivutiso leswi landzelaka.

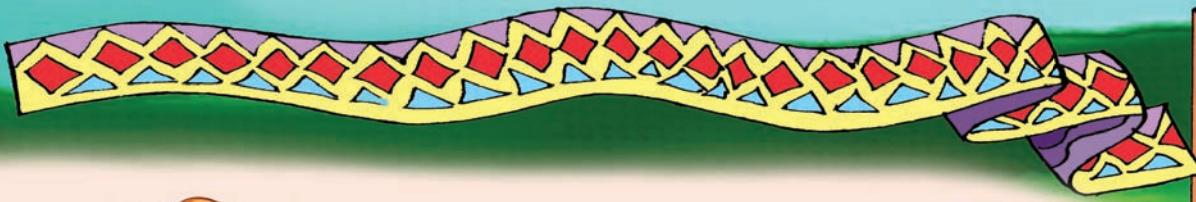


1. Ku na swikwere swingani?

2. Ku na tiyinhlanharhu tingani?

3. Ku na tiyinhlamune tingani?

4. Ku na swirhendzevutana swingani?



Mihandzu leyi yi hlawuriwile hi 20 wa vanghana va wena.
Hlawula mihandzu u tlhela u dirowa xifaniso xa mihandzu leyi u yi
hlawuleke eka girafu ya swifaniso endzhaku u hlamula swivutiso
leswi nga laha hansi.



Mihandzu leyi hi yi rhandzaka swinene

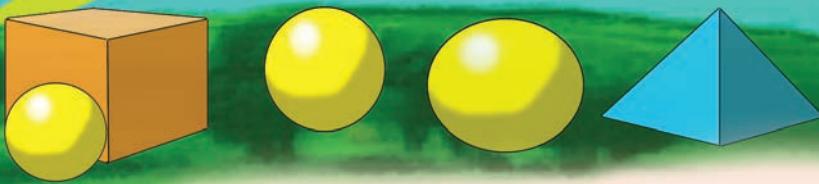
Xiletelo =

Xitiroberi	Apula	Pyere	Banana	Lamula

I vana vangani lava rhandzaka switiroberi?	
I vana vangani lava rhandzaka maapula?	
I vana vangani lava rhandzaka mapyere?	
I vana vangani lava rhandzaka mabanana?	
I vana vangani lava rhandzaka malamula?	
Hi wihi muhandzu lowu vana va wu rhandzaka swinene?	
Hi wihi muhandzu lowu vana va nga wu rhandziki?	



I25



Switiviwa swin' wana



Vana etlilasini va na switlangiso leswi landzelaka.

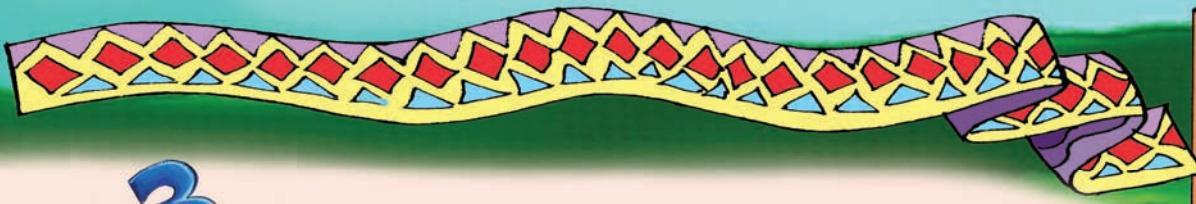
Va na switlangiso swingani swa rixaka rin' wana na rin' wana?



Hetisa tafula leri landzelaka.

Xitlangiso	Nhlayo
Swipopana	
Swilorana	
Tithedi	
Tirhoboto	



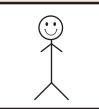


Hetisa girafu ya swifaniso hi ku dirowa nhlayo leyi faneleke
ya swifaniso swa vanhu va tinhonga eka rixaka rin'wana na
rin'wana ra xitlangiso.



Switlangiso leswi hi nga na swona

Xiletelo =



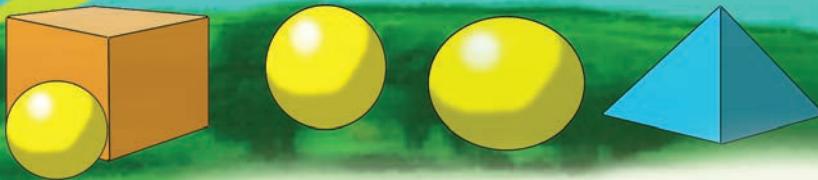
Swipopana	Swilorana	Tithedi bere	Tirhoboto



Hlamula swivutiso leswi landzelaka.
Languta girafu ya swifaniso leswaku u kota ku pfuneka.

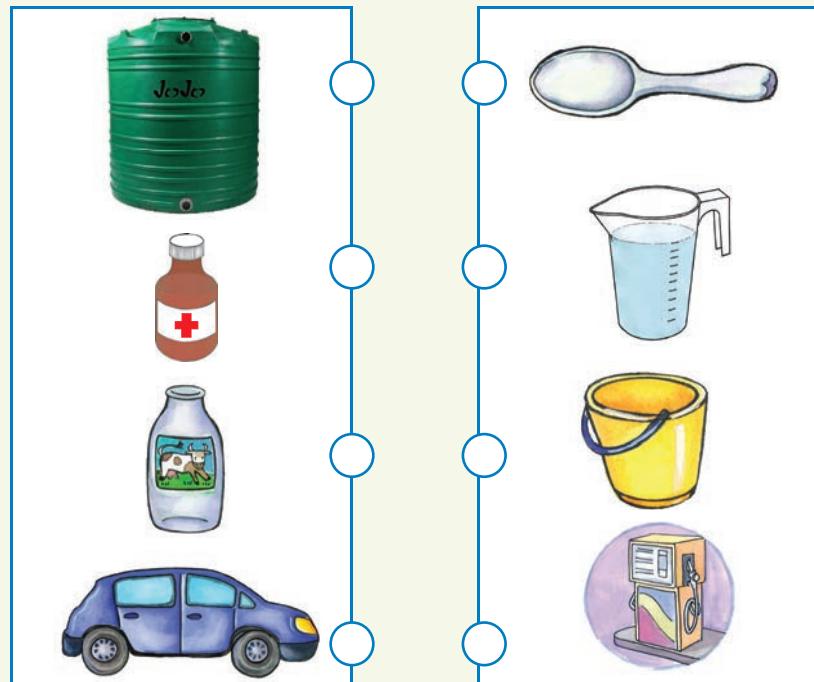
I vana vangani lava nga na xipopana?	
I vana vangani lava nga na xilorana?	
I vana vangani lava nga na thedi bere?	
I vana vangani lava nga na rhoboto?	
Hi xihi xitlangiso lexi rhandziwaka swinene?	
Hi xihi xitlangiso lexi nga rhandziwiki?	



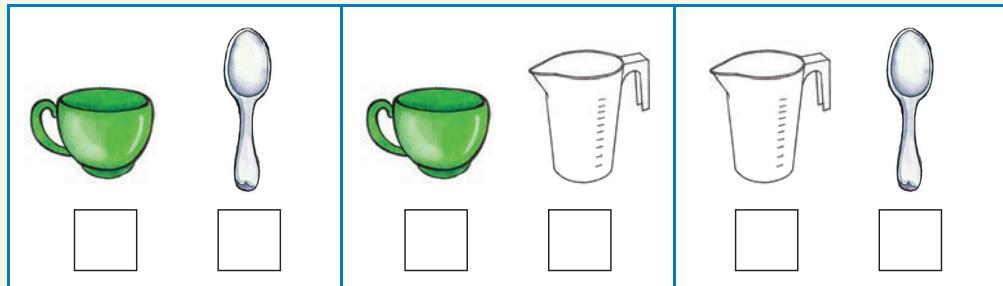


Swihalaki hi swi pimisa ku yini?
Dirowa ntila u yelanisa xanchumu
na xipimo lexi faneleke.

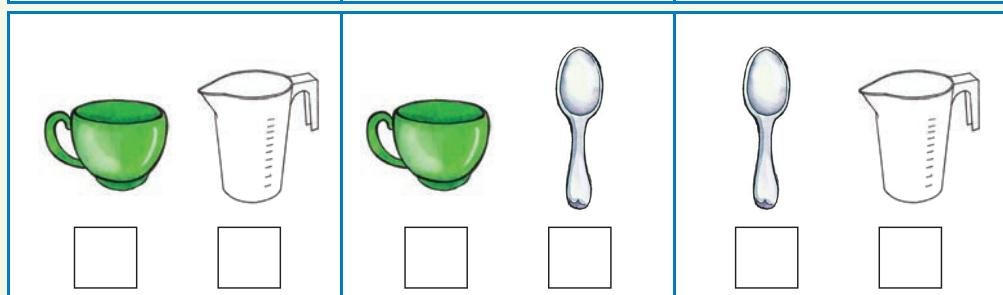
Vundzeni



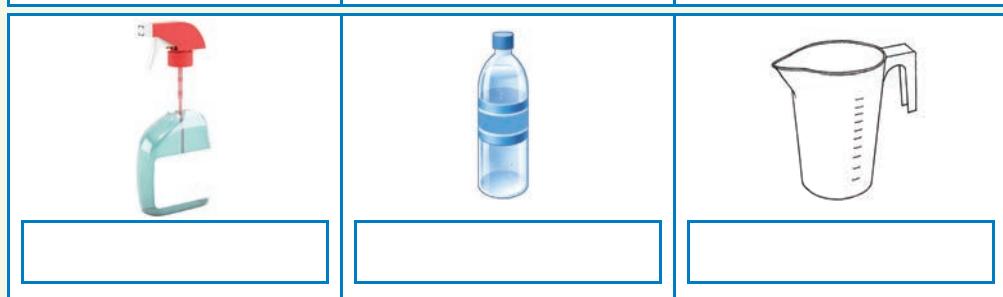
Gwajula xibye lexi
khomaka switsongo.

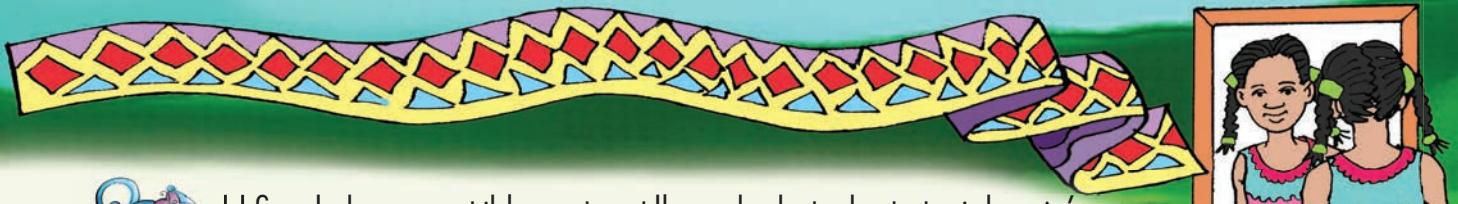


Gwajula xibye lexi
khomaka swo tala.



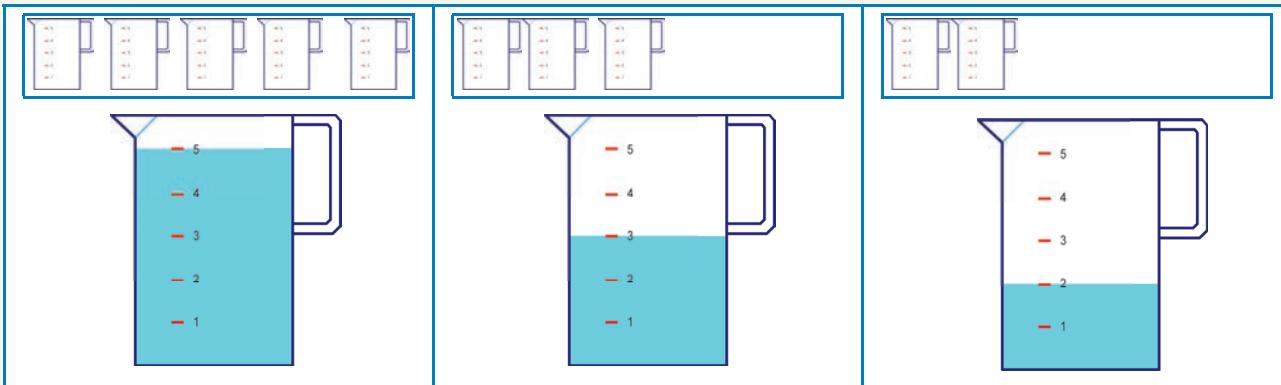
Xana swibye swi
tele kumbe swi hava
nchumu?





U fanele ku va na tikhapu ta ntlhanu ku kota ku tata jeke yin'we.

U fanele ku kuma tikhapu tin'wana tingani leswaku u kota ku tata tijeke tin'wana timbirhi? Ti dirowe.



Khalara ntalo wa swihalaki lowu faneleke.

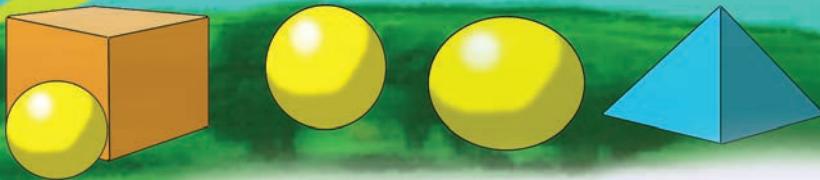
	+	2 = <input type="text"/>
2	+	2 = <input type="text"/>
2	+	3 = <input type="text"/>



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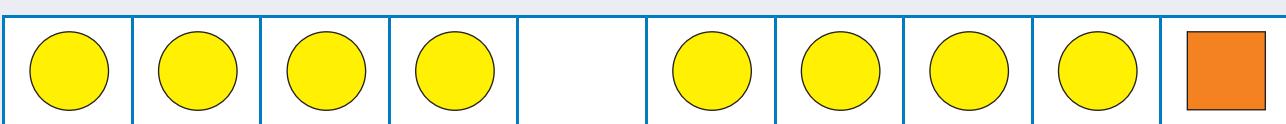
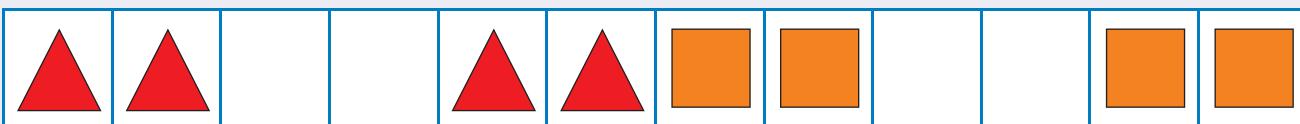
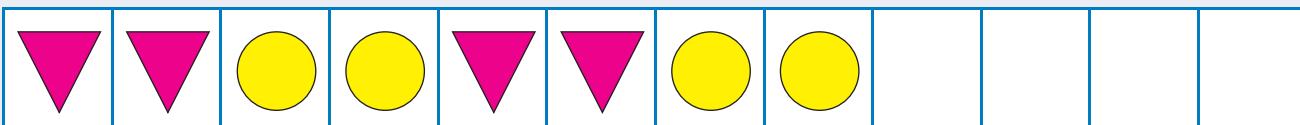
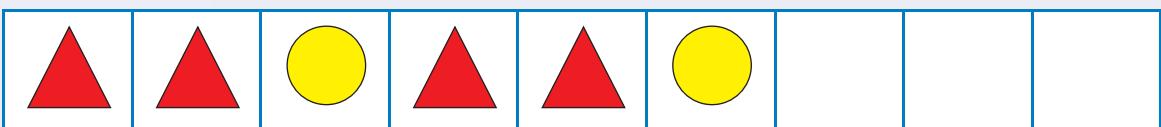


Tipatironi ta jometiri



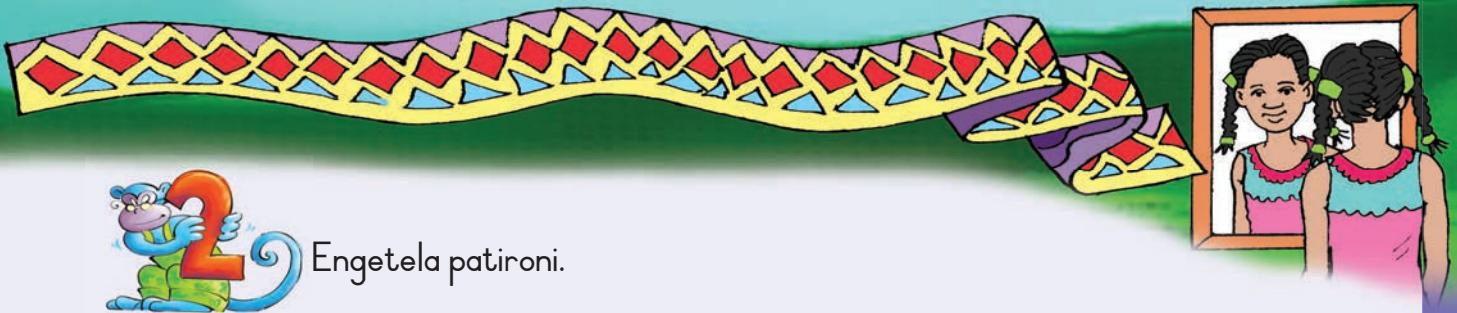
Hetisa tipatironi leti landzelaka.

Kotara ya 4

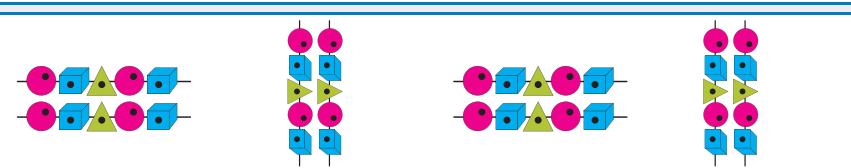
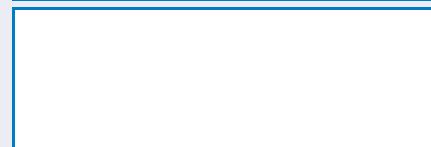
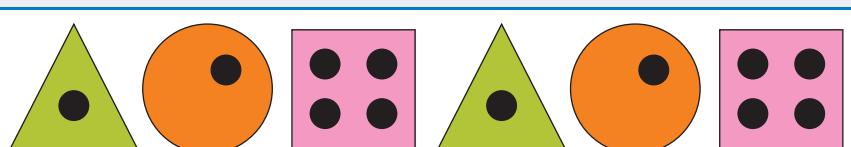
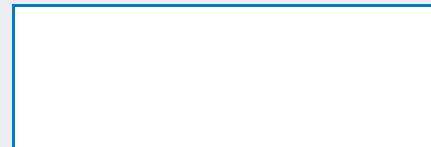
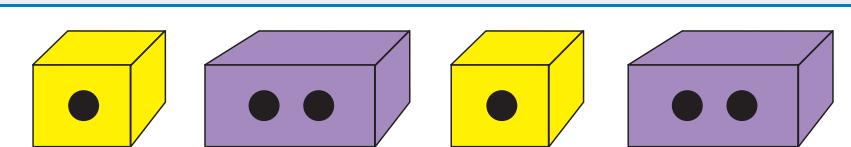
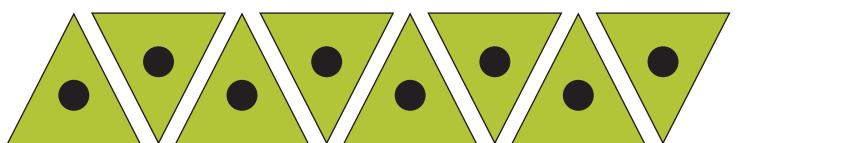


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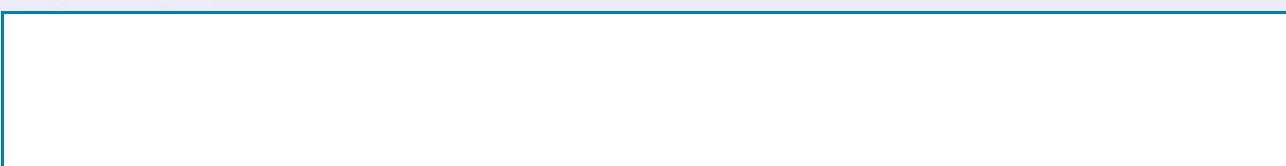
0 1 2 3 4 5 6 7 8 9 10



Engetela patironi.



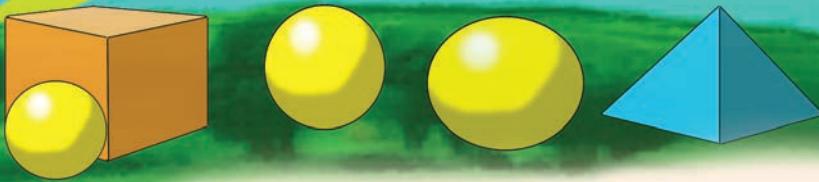
Tumbuluxa tipatironi ta wena u tirhisa swirhendzevutana, swikwere na tiyinhlanharrhu.



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Date:



I28

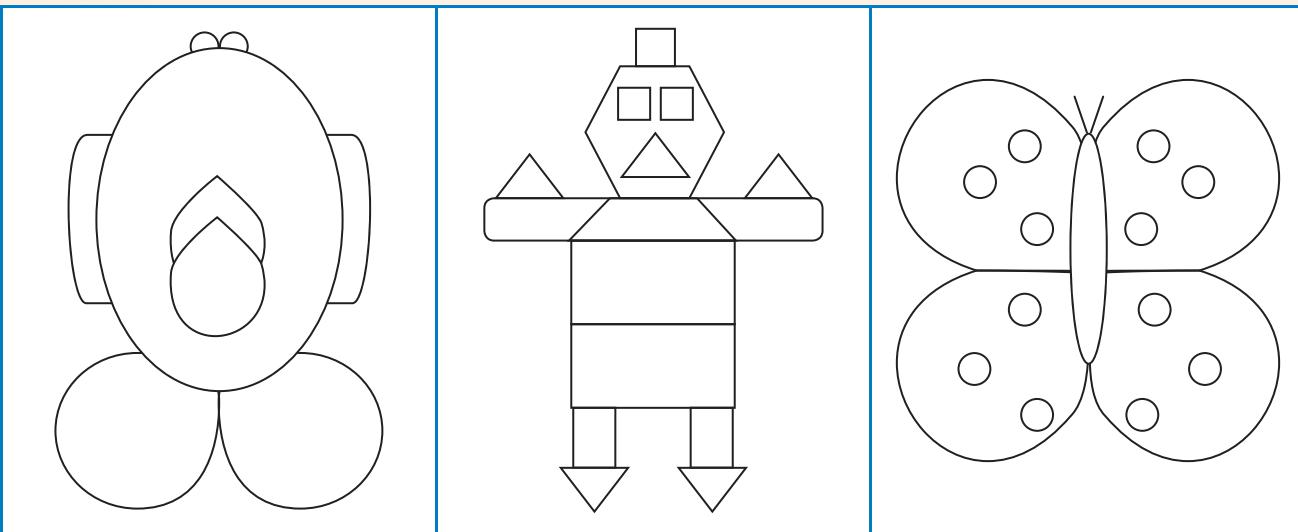


Ndzingano

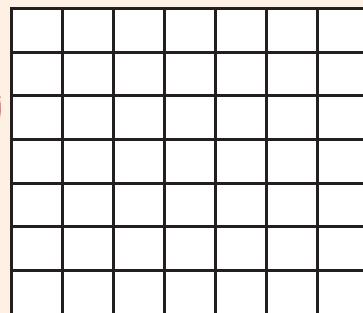
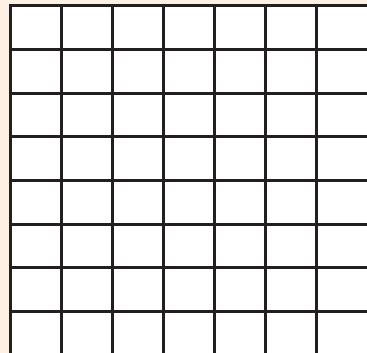
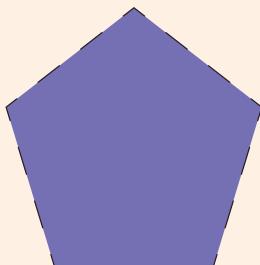
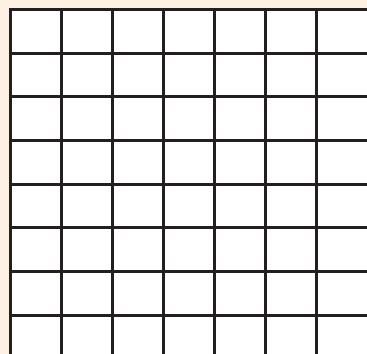
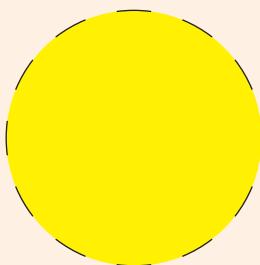
Kotara ya 4

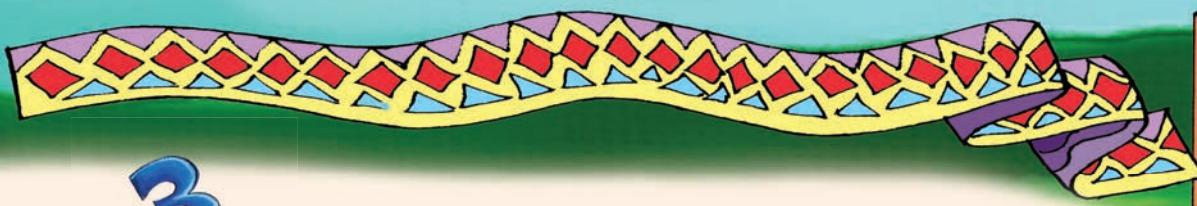


Dirowa ntila wa ndzinganiso lowu avanyisaka xifaniso eka tihafu timbirhi leti ringanaka. Khalara hafu yin'we ya xifaniso xin'wana na xin'wana.

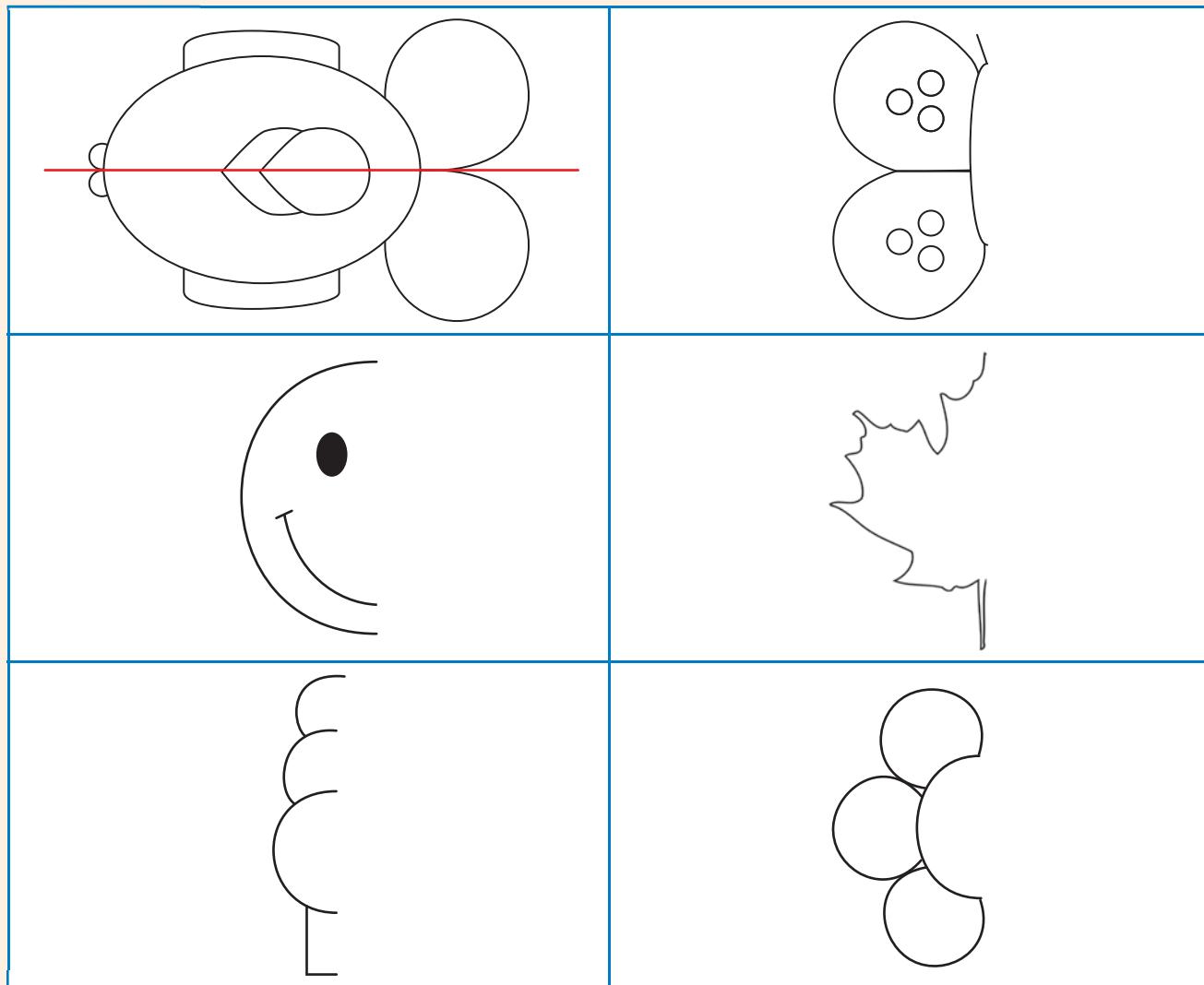


Kopunula swivumbeko u tlhela u dirowa ntila wa ndzinganiso.

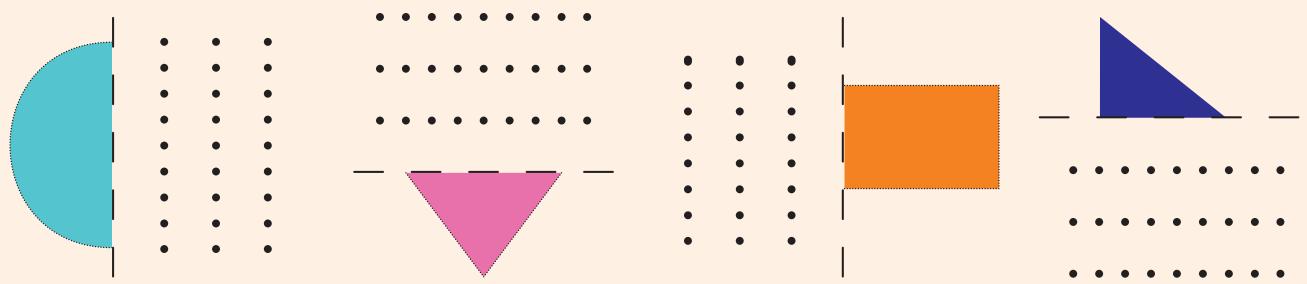




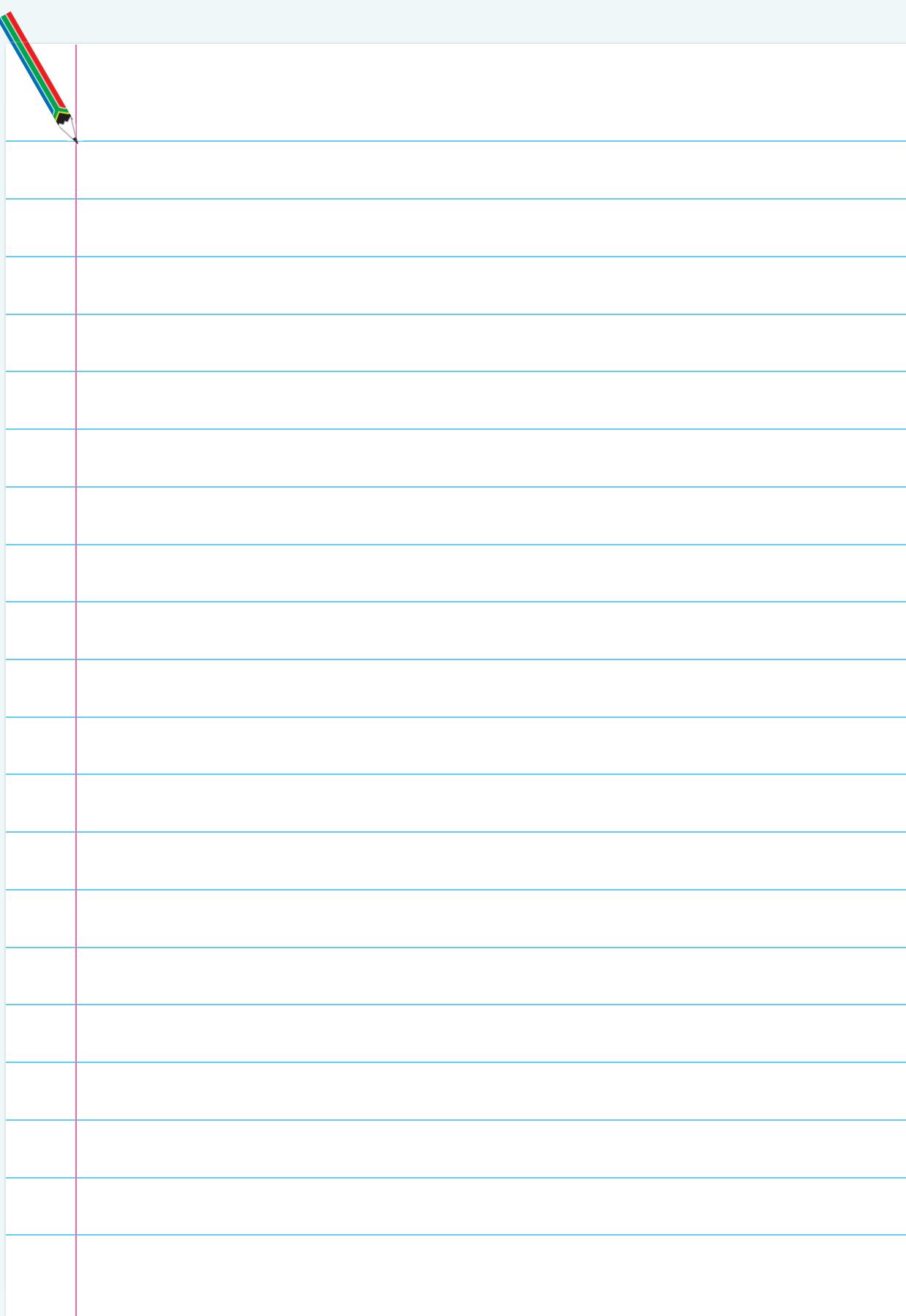
Hetisa xifaniso hi ku dirowa hafu yin'wana.



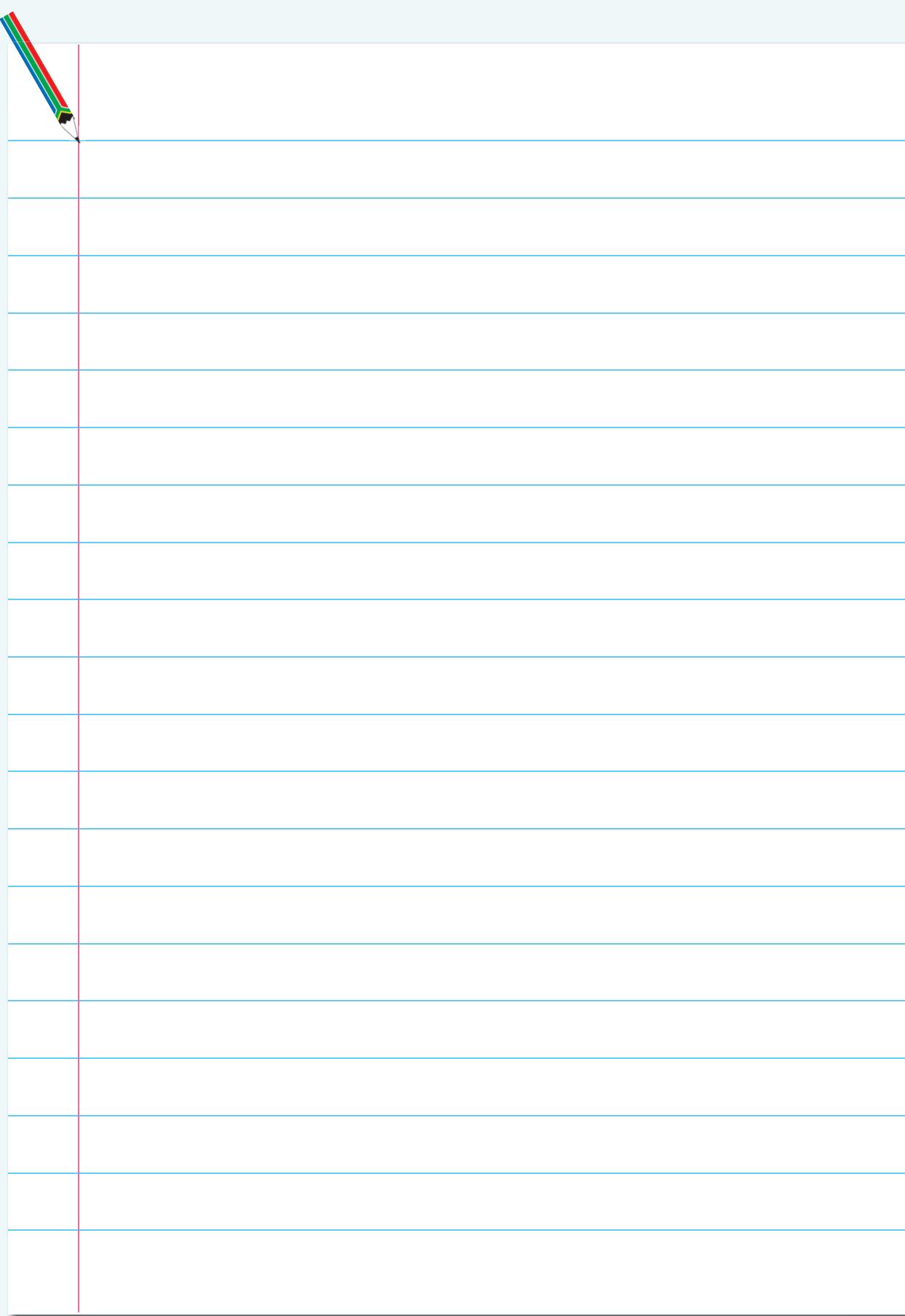
Dirowa hafu yin'wana ya xivumbeko.



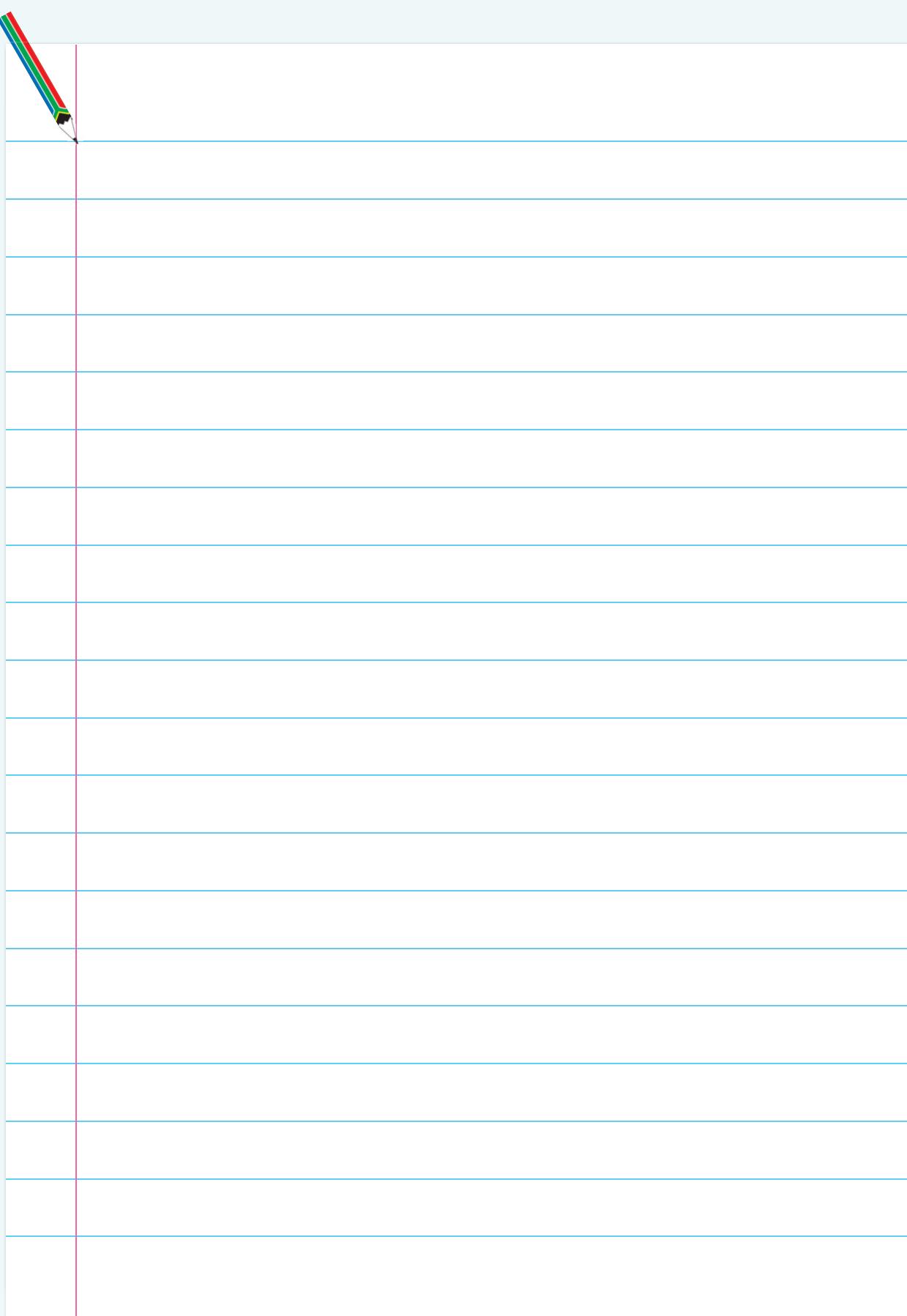
Tinotsi



Tinotsi

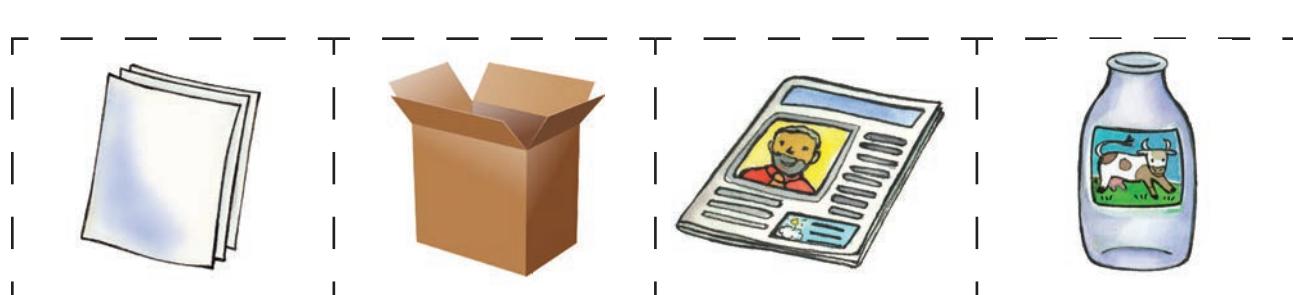
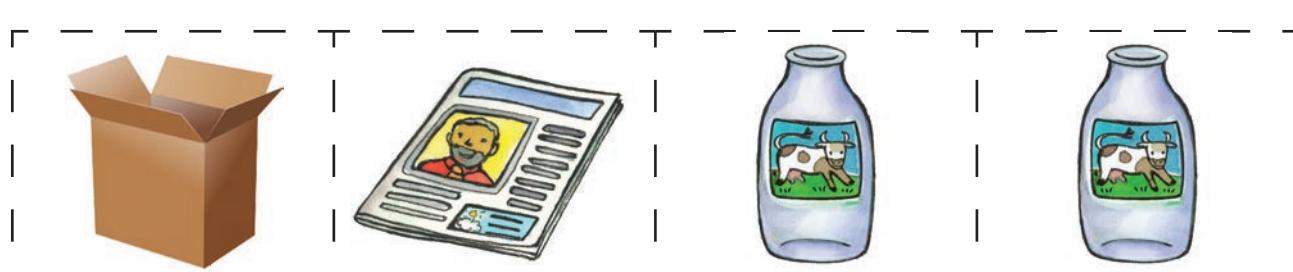
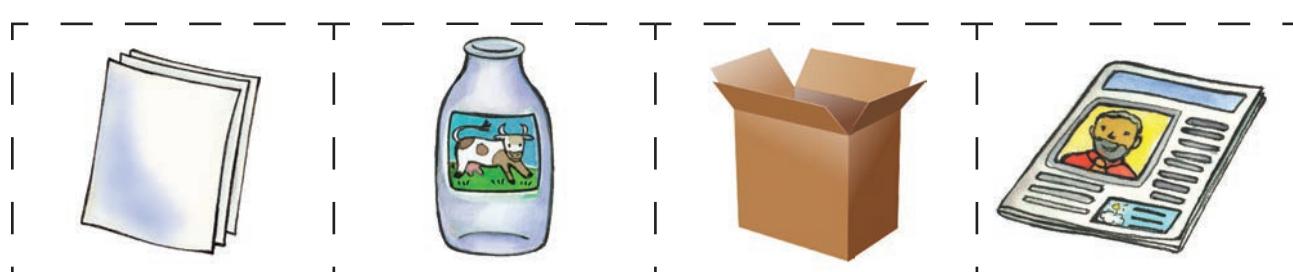
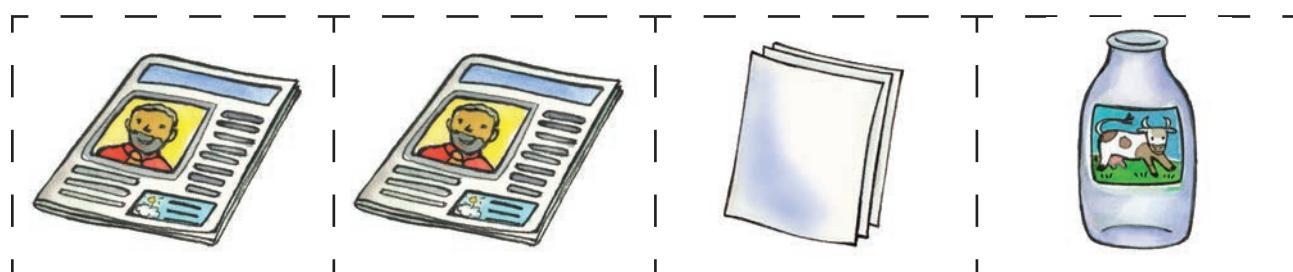
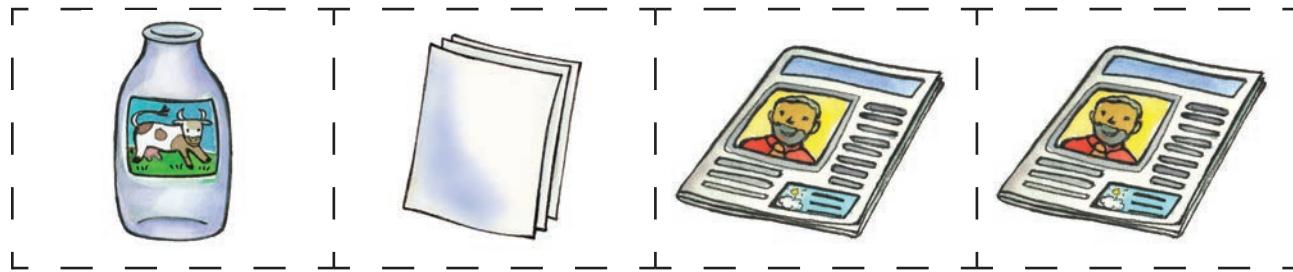


Tinotsi



Cut-out 1

Worksheet 79





Cut out cards 2

Worksheet 83

45	50	40	40	30	35
-	-	-	-	-	-

Worksheet 84

70	65	75	80	70	60
-	-	-	-	-	-

Worksheet 93

34	46	40	44	36	50	32
-	-	-	-	-	-	-
42	48	38				
-	-	-				
62	74	66	68	64	76	80
-	-	-	-	-	-	-
						72
						78

Worksheet 115

72	78	82	84	86	74	80
-	-	-	-	-	-	-
76	88	90				
-	-	-				

Worksheet 119

62	72	64	74	86	66	78	80	68
-	-	-	-	-	-	-	-	-
82	94	86	90	84	96	100		
-	-	-	-	-	-	-		
92	98	88						
-	-	-						

