basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

ANNUAL NATIONAL ASSESSMENT

GRADE 3

MATHEMATICS

SET 1: 2012 EXAMPLAR

GUIDELINES FOR THE USE OF ANA EXEMPLARS

1. General overview

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

2. The structure of the exemplar questions

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

3. Links with other learning and teaching resource materials

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

4. How to use the exemplars

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

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

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

4.3 At the completion of a lesson or series of lessons as a summative test to assess if the learners have gained adequate understanding and can apply the knowledge and skills acquired in the completed

lesson(s). Feedback to learners must be given promptly while the teacher decides on whether there are areas of the lesson(s) that need to be revisited to consolidate particular knowledge and skills.

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

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

5. Memoranda or marking guidelines

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

6. Curriculum coverage

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

7. Conclusion

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

NUMBERS, OPERATIONS AND RELATIONSHIPS

Working with whole numbers

1. Look at the picture below.

a. Estimate how many objects there are in the picture.

b. Count the given objects.

c. Group these objects in fours.

d. Mark one half of the pegs with an "X".

e. What is the **difference** between the estimated number and the actual number of objects?

f. How many objects must I add or subtract to make the estimated number equal to the actual number?

g. Underline the correct answer.

There are ____ objects in the picture.

42 25 44 100

2. Fill in the missing numbers.

a. 600, 500, ____, 300, ____, 100.

b. 4, 8, 12, ___, ____, 24, ____.

3. Complete the table.

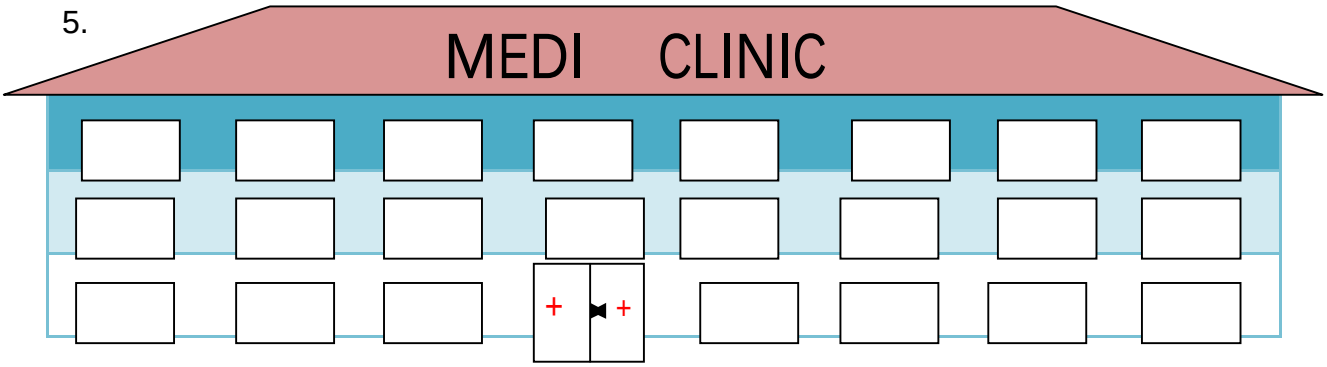
a.	Count on in 2s	128			
b.	Count backwards in 10s	170			
c.	Count in 3s			9	

4. Fill in the missing numbers in the spaces provided.

a. 173, 172, 171, ____ , ____ , 168 , 167 , ____.

b.195, 190, ____, ____ , 175 , ____ , 165.

5.



The hospital has **three** floors.

The rooms are numbered from **ninety- nine** to **one hundred and twenty-one** as shown in the table.

Floor 3		115		117		119	120	
Floor 2	106			109	110			113
Floor 1	99	100		Entrance		103	104	

Number the doors of the un-numbered rooms.

Then fill in the room number in each sentence.

a. The third last room on floor 2 is_____.

b. The fifth room on floor 1 is_____.

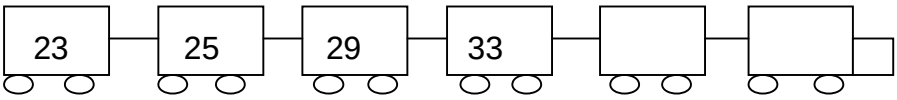
c. The last room on floor 3 is_____.

d. The room which comes before room 114 is room_____.

e. Just after room 105 is room_____.

f. Between room 99 and room 101 is room _____.

6. Fill in the missing numbers.



What rule did you use?

7. Write the number name for the number symbol.

8. Match the number name to the number symbol.

two hundred

sixty-seven

one hundred and thirty-four

one hundred and forty-five

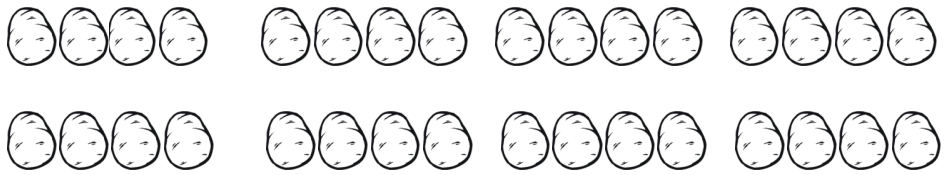
9. Write the number symbol.

a. One hundred and ninety-nine

b. Seventy-eight

10. Look at the picture.

Count the number of potatoes and write down the number name and number symbol.



a._____ b. _____

11. Write the name of the whole number that comes:

a. before 88

b. after 88

c. between 88 and 90

12. Fill in >, < or = to make the number sentence true.

24 + 10 ____ 10 x 10

13. 101 > 122

Is the above number sentence correct?

Tick the box with the correct answer | Yes | | No |

14. Write down **True** or **False**.

a.37 + 20 = 50 + 8

b.190 > 119

c.18 ÷ 2 < 9 x 2

15. Arrange the given numbers from the smallest to the greatest.

99 , 13 , 35 , 70 , 9

16. Five numbers have been arranged from the greatest to the smallest.
Circle the letter of the correct answer.

A 17 , 35 , 53 , 59 , 95

B 59 , 17 , 95 , 35 , 53

C 95 , 59 , 53 , 35 , 17

D 53 , 17 , 59 , 95 , 35

17. Write down **Yes** or **No**.
Are the following numbers arranged correctly from the smallest to the greatest?
24, 27, 30, 51, 64, 99

18. Write down the **place value** of the underlined digit.

a. 5̲6

b.7̲4

19. What is the **value** of the underlined digit?

a. 6̲3

b.1̲9

20. Break down the given numbers.

a.61

b.50

21. Circle the letter of the correct answer.

The place value of 3 in 93 is:

A. units B. tens C. hundreds

22. Mark the block with the correct answer with a “X”.
The value of the digit 6 in number 61 is

60	6

23. Build up the following numbers.

100 + 80 + 9 = _____

100 + 100 + 0 + 0 = _____

100 + 40 + 30 + 2 + 1 = _____

24. Break down.

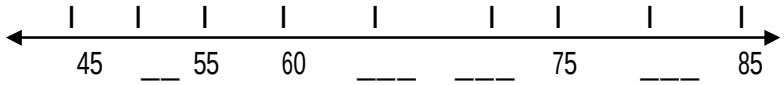
a.136 = ___ + ___ + ___

b.36 = ___+ ___

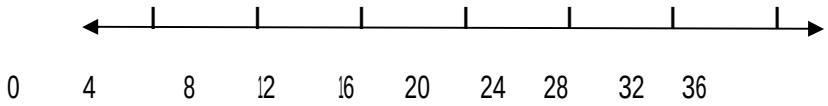
25. Fill in the missing numbers in the table below.

Number doubled	Number	Number halved
	42	
	37	
	34	

26. Fill in the missing numbers on the number line.



27. a. Show how you can use the number line to add 16 and 12.



b. **Double** your answer.

a. **Halve** your answer.

28. Circle the letter of the correct answer.

Half of 50 is:

A. 20 B. 15 C. 24 D. 25

29. There were 67 cans of cool drink in the fridge. Dad put in another 32 cans. How many cans are now in the fridge?

30. Bob collected 122 glass bottles for a recycling project. 38 of them broke. How many bottles did not break?

31. The Grade 1 learners collected 67 ice cream sticks. The Grade 2 learners collected 56 ice cream sticks and the Grade 3 learners collected 45. How many ice cream sticks did the Foundation Phase learners collect?

32. There are twenty baskets with five apples in each. How many apples are in the baskets all together?

33. Busi had sixteen trays of eggs. Each tray holds twelve eggs. Sam brought another twelve trays for Busi. How many trays does Busi now have?

34. Sally bought ten packets of Jelly Tots. Each packet cost R3,00. How much did she pay for the Jelly Tots?

35. Donald has ninety lollipops and wants to share them equally amongst his three nephews. How many lollipops will each nephew get?

36. Mum baked twenty-four cup cakes and shared them equally amongst her four children. How many cup cakes did each child get?

37. **MONEY**

a. Write down the colour of each of the South African banknotes.

b. How many of the following coins are R2, 00 coins?

Complete:

5c + 20c + 50c + 10c = _____

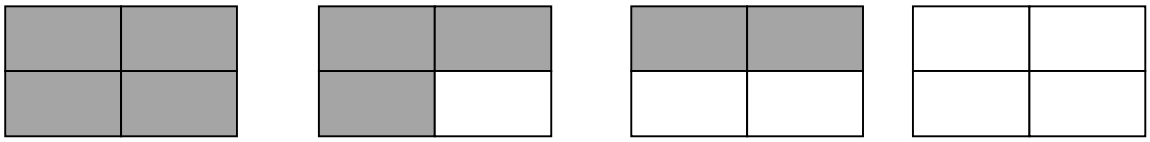
a. Vusi wants to buy a pair of roller skates which cost R90. She has saved R45 thus far. How much more does she need to save?

b. Lefa wants to buy two balls which cost R34 each. How much money does she need to buy the balls?

c. Lebo's mum gave her a 50c coin and her dad gave four 20c coins to spend. How much change will she get if she buys a packet of sweets which cost 95c?

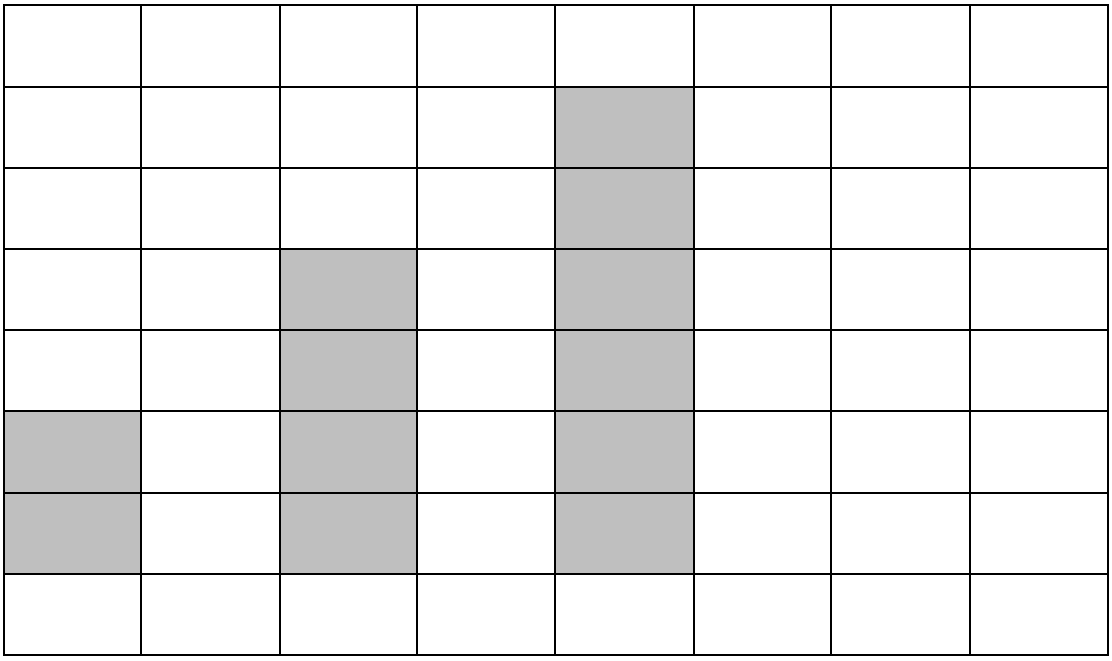
PATTERNS, FUNCTIONS AND ALGEBRA

1. Colour in the last diagram to complete the pattern.



Describe the pattern in your own words.

2. Draw the next diagram in the "growing" diagram pattern.



3. Make your own pattern using shapes.

4. Fill in the missing numbers

60; 70; 80; ____; ____ ; ____ .

5. Susan's mum baked 10 pizzas and cut each into the same number of slices. Complete the table.

Number of pizzas	1	2	3	4	10
Number of slices	5		15		

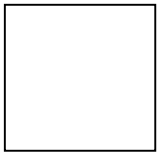
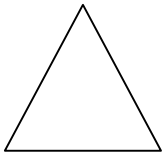
6. Write down the next four numbers in each sequence.

a. 412 ; 410 ; 408 ; ____ ; ____ ; ____ ; ____

b. 123; 126; 129; ____ ; ____ ; ____ ; ____ .

SPACE AND SHAPE

1. How many sides does each shape have?

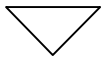
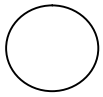
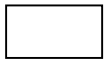

2. Match each word to the correct shape.

square

rectangle

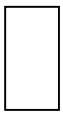
circle

triangle

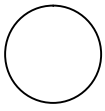





3. Write down the name of each of the given shapes.

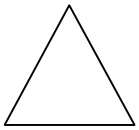
a.



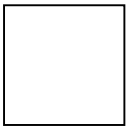
b.



c.



d.

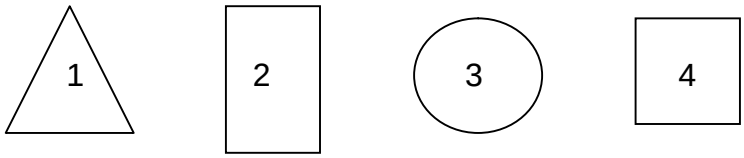


4. Draw the shape under the word.

a. Triangle

b. Rectangle

5. Use the numbers written in the shapes to make the sentences that follow true.



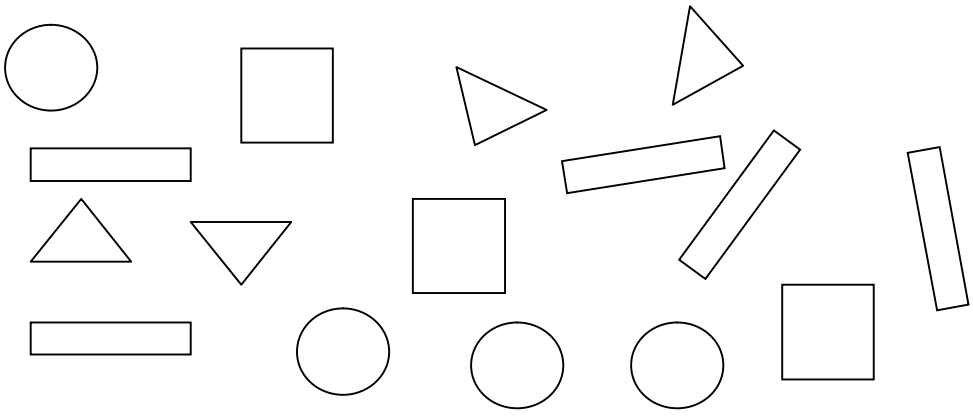
a. The circle is marked with number_____.

b. The rectangle is marked with number_____.

c. The square is marked with number_____.

d. The triangle is marked with number_____.

6.



Colour in

A the triangles in green.

B the squares in red.

C the rectangles in blue.

D the circles in yellow.

MEASUREMENT

1. Study the February 2012 calendar and complete the sentences that follow.

February

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

a. February 2012 has _____ days.

b. The month of February 2012 starts on a _____.

c. The first week has _____ days.

d. February 2012 ends on a _____.

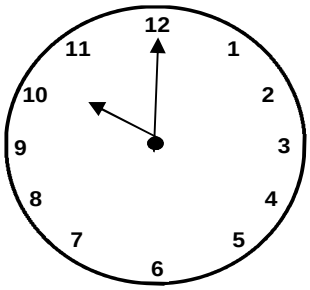
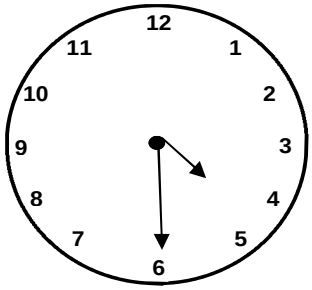
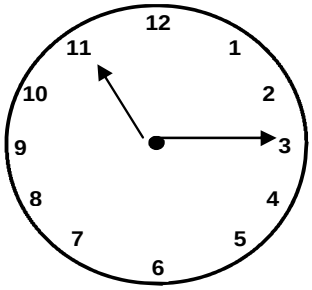
e. In February 2012 there are _____ Sundays.

f. There are_____ full weeks in February 2012

g. On the 7th of February the Moloi family left for a holiday. They returned on the 23rd of February. The Moloi family's holiday lasted _____ days.

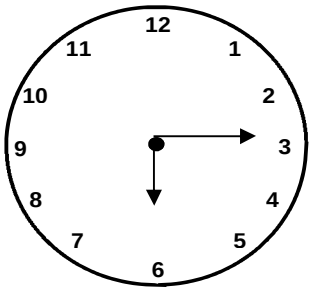
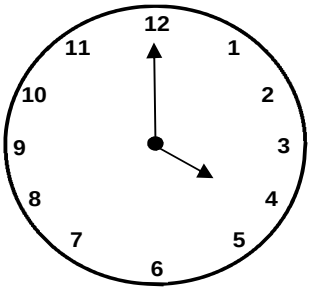
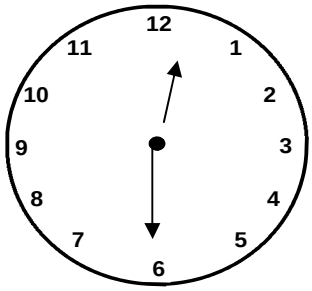
h. The Grade 3 learners went on a 16 day tour to the Kruger National Park. they left on the 13th of February 2012. They returned on the _____.

2. Write down the correct time shown on each of the clock faces.

a _____ b_____ c _____

3. Write down the correct time shown on each of the clock faces in digital and analogue time.

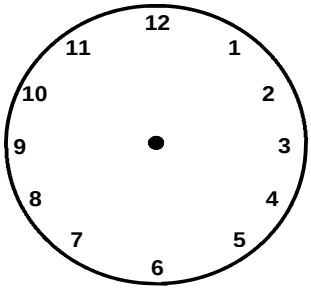




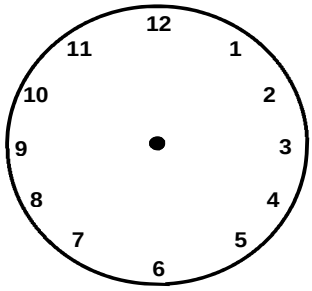
a._____ b. _____ c._____

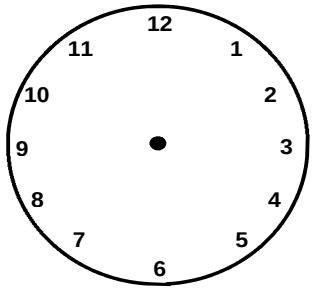
_____ _____ _____

4. Draw the hands on each of the following clock faces to show the

required time.

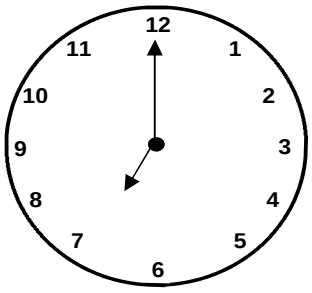


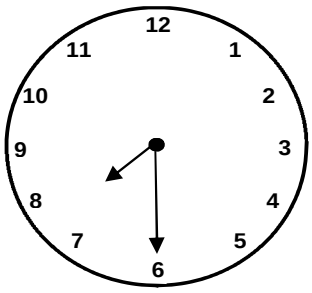




half past 9 11 o'clock a quarter past 7

5. Liza walks to school.

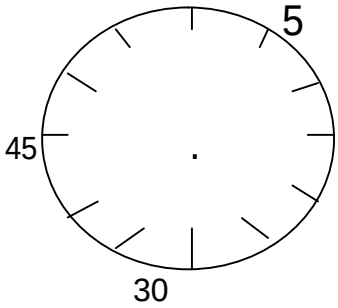




She leaves home at 07:00 She gets to school at 07:30

It took Liza _____ minutes to walks to school.

6. Number the missing minute intervals on the given clock faces.



7.Complete:

If one bottle of cool drink fills four glasses then

a. 2 bottles fill _____ glasses.

b. 5 bottles fill _____ glasses.

c. _____ bottles fill 40 glasses.

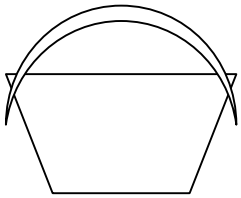
d. _____ bottles fill 12 glasses.

8. Write down the capacities of the following containers from the smallest to the largest.

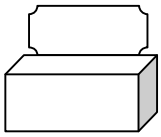
500ml tin of juice 5ml teaspoon 250ml cup

5l bucket 2l bottle of coke

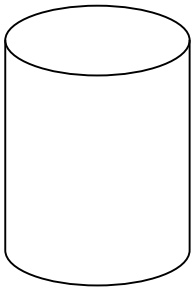
9. Look at the pictures below and answer the questions that follow.



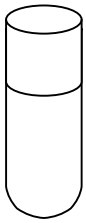
5l



1l



10l



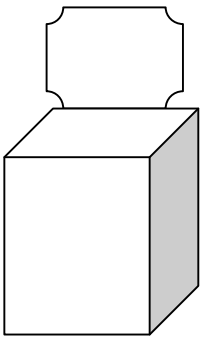
2l

a. How many 2l bottles are needed to fill the 10l bin?

b. How many 1l containers can I fill from the 2l containers?

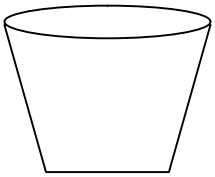
10.

A



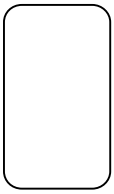
2l

B



1l

c



500ml

Study the above pictures and say whether you agree with the sentences by writing **YES** or **NO.**

a. The capacity of A is double that of B.

b. The capacity of B is double that of A.

c. The capacity of C is double that of A.

d. The capacity of B is double that of C.

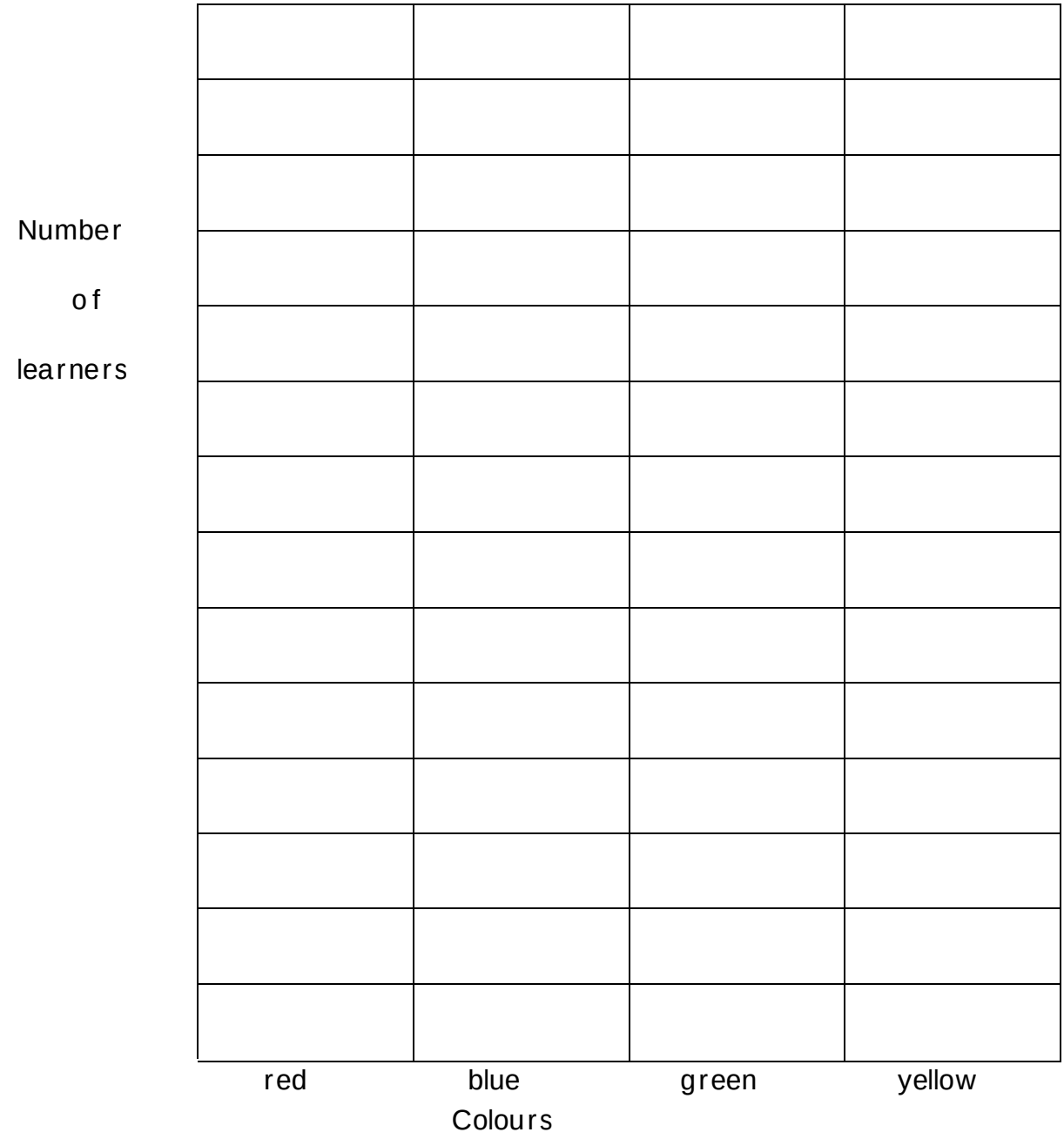
DATA HANDLING

1. The Grade 3 learners were asked to select their favourite colours.
   The results are listed below.

Colour	Number of learners
red	16
blue	20
green	12
yellow	10

Use the information in the table to complete the bar graph. Then complete the sentences that follow.

Learners favourite colours



a. _____ learners were questioned about their favourite colours.

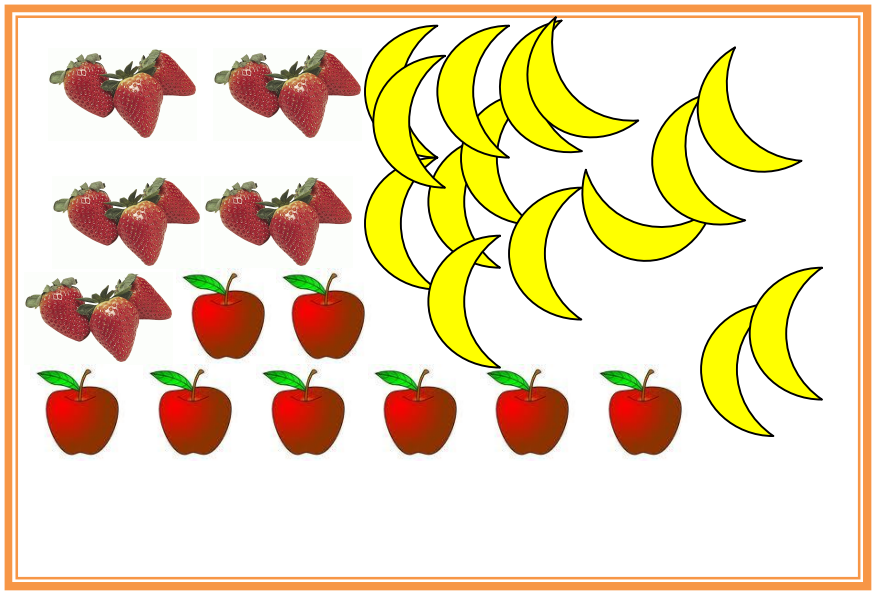
b. The most popular colour is_____.

c. The least popular colour is_____.

d. _____ more learners preferred red to yellow.

e. The total number of learners who chose green and yellow colours are_____.

2. Our local fruit store donated a box of fruit to the Tshabalala family. The box contained a variety of fruit as shown in the picture below.



Complete the frequency table.

Kind of fruit	**Tally marks**	**Frequency**
Apple		
Banana		
Strawberry		