



AFRICAN POPULATION AND HEALTH RESEARCH CENTER: EDUCATION RESEARCH
PROGRAMME: LEARNER MATHEMATICS ASSESSMENT TOOL (BASELINE)
THIS ASSESSMENT TOOL SHOULD BE ADMINISTERED TO STD SIX PUPILS IN THE
SCHOOL VISITED

In the process of developing this study tool, several sources were consulted and mainly included the Human Sciences and Research council (HSRC) and the South Africa Consortium for Monitoring and Evaluating Educational Quality II – Kenya (SACMEQ II).

GENERAL INSTRUCTIONS TO THE STUDENT

- Read these instructions carefully.
- It is important that you answer each question carefully and as accurately as possible.
- Respond to the questions by simply circling your answer among the choices provided.
- Please return the completed questionnaire to the research assistant. All information in this questionnaire will be treated confidentially.
- Thank you very much for the time and effort you have put into responding to this questionnaire.

PART I: BACKGROUND INFORMATION

1.1	START TIME	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>								
1.2	DATE OF ASSESSMENT (DD/MM/YYYY)	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>								
1.3	FIELD INTERVIEWER'S (FI) CODE	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td></tr></table>								
1.4	FULL NAME OF PUPIL	_____								
1.4.1	PUPIL'S ID [TO BE ASSIGNED AT DATA ENTRY]	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>								
1.5	FULL NAME OF SCHOOL	_____								
1.6	CURRENT KENYA NATIONAL EXAMINATION INDEX FOR THE SCHOOL	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>								
1.7	PREVIOUS KENYA NATIONAL EXAMINATION INDEX FOR THE SCHOOL	<table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>								
1.8	FI: IN WHICH PROVINCE IS THE SCHOOL LOCATED? (USE PROVINCE CODES A BELOW)	<table border="1"><tr><td> </td><td> </td></tr></table>								
	CODE A: 01=COAST; 02=CENTRAL; 03=EASTERN; 04=NAIROBI; 05=RIFT VALLEY; 06=WESTERN 07=NYANZA; 08=NORTH EASTERN									
1.9	FI: GIVE THE NAME OF THE DISTRICT WHERE THE SCHOOL IS LOCATED	_____								

1.10 START TIME FOR PART II

--	--	--	--

1.11 END TIME FOR PART II

--	--	--	--

PART II: TEST

TEST INSTRUCTIONS

1. The test consists of **40** questions.
2. Answer **ALL** the questions in the test.
3. There is only one correct answer for each question.
4. The questions are in multiple choice format. This means you have to select the correct answer from possible answers that are given to you.
5. Circle the letter next to the correct answer:

Example 1: What is the value of the 2 in this number? **4725**

Circle the letter that shows the correct answer.

- A.** 2
B. 20
C. 200
D. 2000

The letter B is circled because the 2 in this number has a value of 20.

Example 2: What is the next number in this pattern?

3; 6; 9; _____

Circle the letter that shows the correct answer.

- A.** 10
B. 7
C. 15
D. 12

The letter D is circled because the next number in the pattern is 12. This is because this pattern is made by adding 3 every time onto the number that comes before.

1. Some of the numbers in the blocks below have been filled in. The other blocks are numbered following those which are given.

1	2	3	4	5	6	7	8	9	10
21	22	23	24	25	26	27	28		

What is the number that fills the black block?

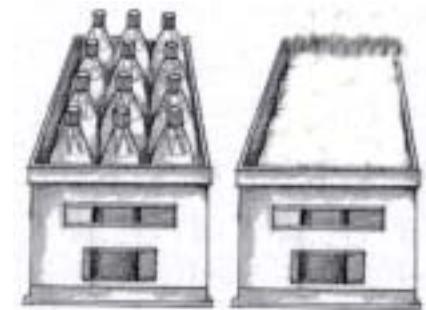
Circle the letter that shows the correct answer.

- A. 17
B. 27
C. 36
D. 39

-
2. Kamau must pack some crates. 12 bottles will fill a crate.

Kamau packs 5 crates.

How many bottles has he packed altogether?



Circle the letter that shows the correct answer.

- A. 7
B. 17
C. 24
D. 60

3. Write the following words in numbers:

Seven thousand and thirty-one

Circle the letter that shows the correct answer.

- A. 731
 - B. 7031
 - C. 70031
 - D. 700031
-

4. $72447 + 325 =$ _____

Circle the letter that shows the correct answer.

- A. 72772
 - B. 72762
 - C. 727712
 - D. 72781
-

5. Mr Ali bought nine packets of sugar. If each packet weighed $\frac{1}{2}$ kg, how many kilograms of sugar did Ali buy altogether?

Circle the letter that shows the correct answer.

- A. 9 kg
 - B. 4 kg
 - C. $4\frac{1}{2}$ kg
 - D. $9\frac{1}{2}$ kg
-

6. A soccer team is selling raffle tickets. The table below shows how many tickets each team member has sold.

Team Member	Tickets Sold
John	5
Mungai	15
Otieno	2
Donald	6
Mutua	8
Joseph	19
Peter	6
Graham	8

Who has sold the least tickets?

Circle the letter that shows the correct answer.

- A. John
- B. Joseph
- C. Mungai
- D. Otieno

-
7. What is the value of the 7 in this number?

47825

Circle the letter that shows the correct answer.

- A. 70
- B. 700
- C. 7
- D. 7000

-
8. $30 \times \underline{\hspace{2cm}} = 60 \times 2$

Circle the letter that shows the correct answer.

- A. 2
- B. 60
- C. 4
- D. 120

9. There are **120** children at a school assembly.

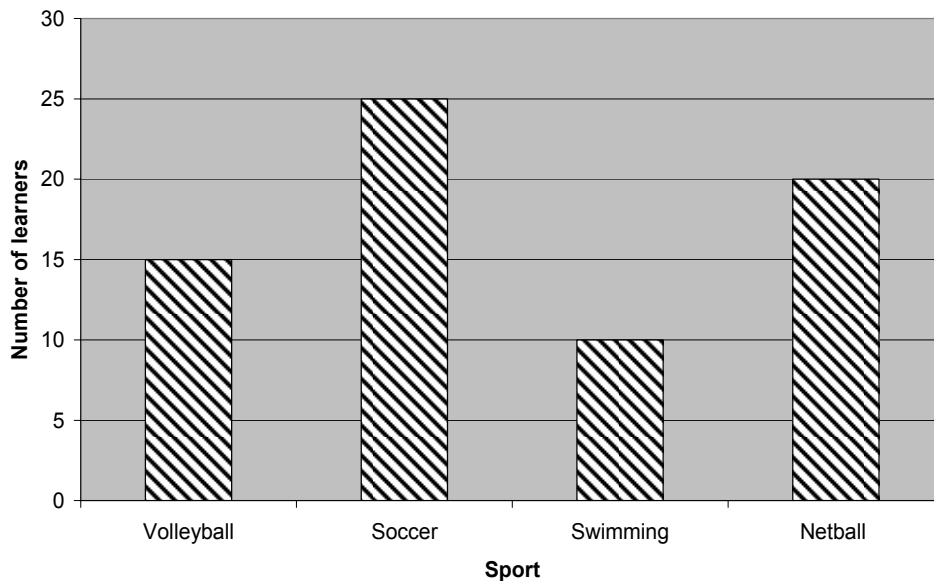
They sit in **6** equal rows.

How many children are there in **three** rows?

Circle the letter that shows the correct answer.

- A. 20
- B. 30
- C. 60
- D. 120

-
10. Mrs Juma asked each learner in her class to name one favourite sport. She showed the information in the bar graph below.



How many learners were in Mrs Juma's class?

Circle the letter that shows the correct answer.

- A. 15
- B. 70
- C. 60
- D. 25

Use the fraction chart below to help you to answer questions 11 and 12.

$\frac{1}{2}$						$\frac{1}{2}$					
$\frac{1}{3}$				$\frac{1}{3}$				$\frac{1}{3}$			
$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$		
$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$	
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$

11. Which fraction below is greater than $\frac{1}{2}$?

Circle the letter that shows the correct answer.

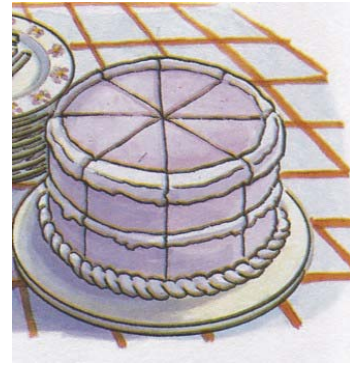
A. $\frac{1}{3}$

B. $\frac{2}{5}$

C. $\frac{3}{4}$

D. $\frac{3}{8}$

12. $\frac{2}{8}$ of this cake is equivalent to what other fraction of this cake?



Circle the letter that shows the correct answer.

- A. $\frac{1}{4}$
- B. $\frac{1}{8}$
- C. $\frac{1}{2}$
- D. $\frac{3}{4}$
-

13. Write the missing number in the box:

$$487263 = 400000 + \boxed{} + 7000 + 200 + 60 + 3$$

Circle the letter that shows the correct answer.

- A. 8
- B. 80000
- C. 800
- D. 8000
-

14. How would you round off to the nearest 100 to help you to estimate the sum of 449 and 851?

Circle the letter that shows the correct answer.

- A. $450 + 850$
- B. $500 + 900$
- C. $400 + 900$
- D. $500 + 800$

15. $16 \times 500 =$ _____

Circle the letter that shows the correct answer.

- A. 800
 - B. 80
 - C. 80000
 - D. 8000
-

16. $2\frac{2}{3} + \frac{1}{6} + \frac{5}{9} =$ _____

Circle the letter that shows the correct answer.

- A. $2\frac{8}{18}$
 - B. $2\frac{7}{18}$
 - C. $3\frac{7}{18}$
 - D. $\frac{7}{18}$
-

17. $7550 \div 25 =$ _____

Circle the letter that shows the correct answer.

- A. 32
 - B. 302
 - C. 7225
 - D. 7575
-

18. Jelimo's grandmother is 66 years old.

Jelimo's age is $\frac{1}{6}$ of her grandmother's age. How old is Jelimo?

Circle the letter that shows the correct answer.

- A. 10
 - B. 11
 - C. 12
 - D. 15
-

19. Choose the answer from below that gives the value of this expression:

$$7 + (6 \times 5) - 3$$

Circle the letter that shows the correct answer.

- A. 19
 - B. 26
 - C. 34
 - D. 62
-

20. Look at this pattern of numbers:

$$1 \times 1 = 1$$

$$11 \times 11 = 121$$

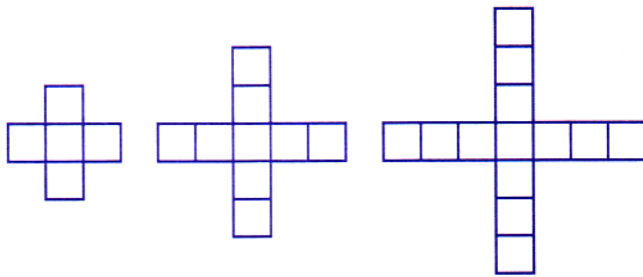
$$111 \times 111 = 12321$$

What is 111111×111111 ?

Circle the letter that shows the correct answer.

- A. 12345654
 - B. 123454321
 - C. 12345654321
 - D. 1234567654321
-

21.



Step 1

Step 2

Step 3

Step 4

How many squares will there be in Step 4 of this pattern?

Circle the letter that shows the correct answer.

A. 18

B. 16

C. 17

D. 20

22. Fill in the last number in this pattern:

$1\frac{1}{4}$; $1\frac{1}{2}$; $1\frac{3}{4}$; _____; _____

Circle the letter that shows the correct answer.

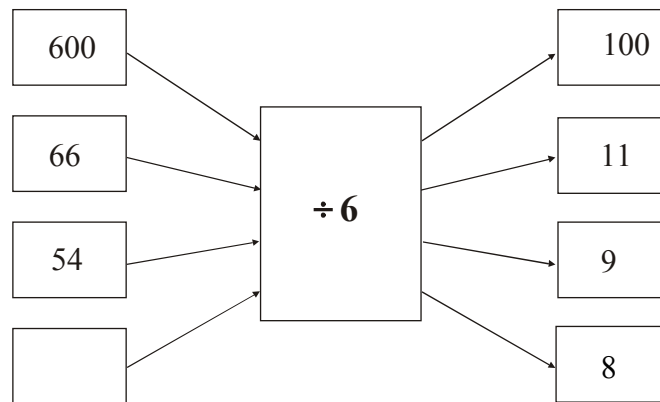
A. 2

B. $2\frac{1}{2}$

C. $2\frac{1}{4}$

D. $2\frac{3}{4}$

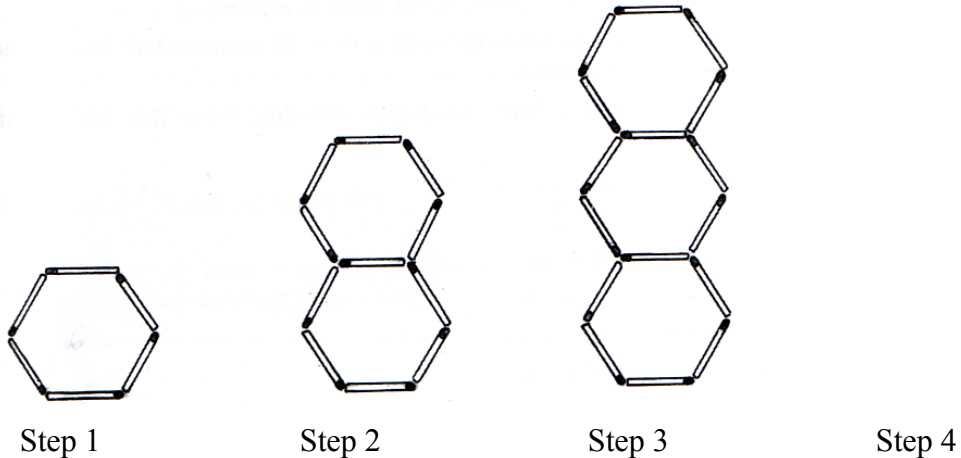
23. Fill in the missing number:



Circle the letter that shows the correct answer.

- A. 12
- B. 18
- C. 42
- D. 48

-
- 24.



How many sticks will there be in the next step 4 of this pattern?

Circle the letter that shows the correct answer.

- A. 5
- B. 20
- C. 21
- D. 25

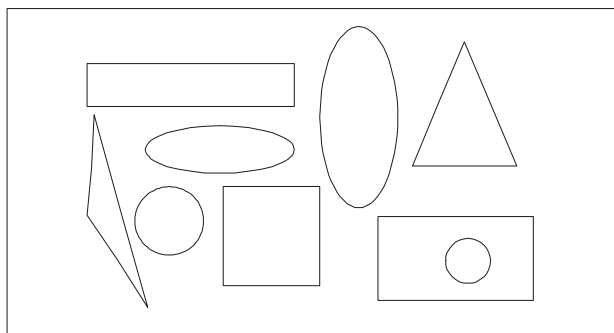
25. How many edges does the following shape have?



Circle the letter that shows the correct answer.

- A. 3
 - B. 12
 - C. 8
 - D. 6
-

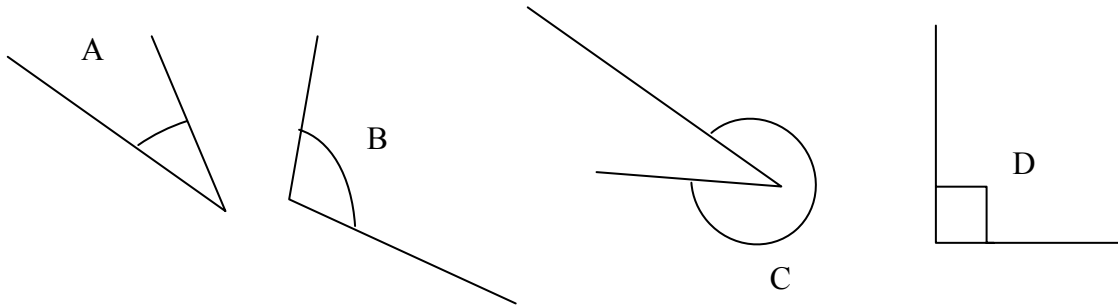
26. How many **circles** do you see in the figure below?



Circle the letter that shows the correct answer.

- A. 4
 - B. 3
 - C. 2
 - D. 1
-

27. Which of the following is an acute angle?

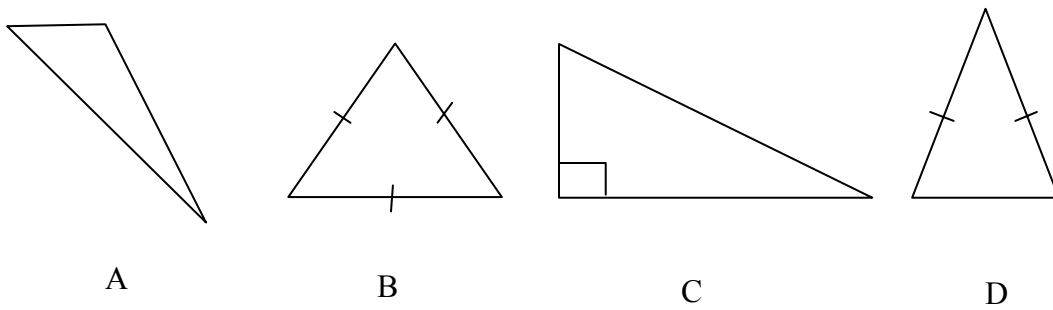


Circle the letter that shows the correct answer.

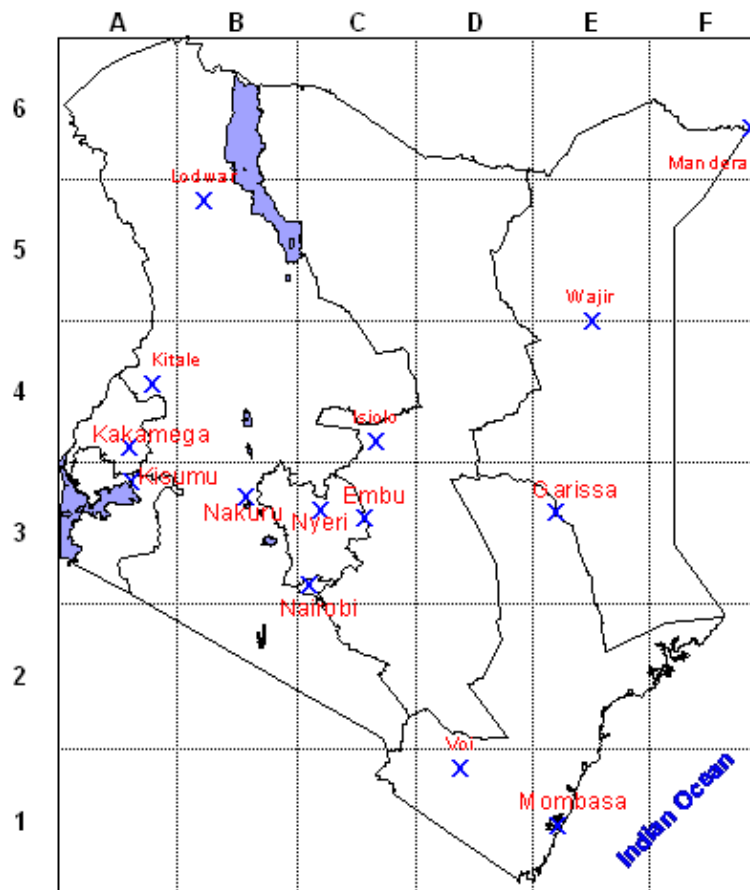
- A.
 - B.
 - C.
 - D.
-

28. Which of the following shapes is an isosceles triangle?

Circle the letter that shows the correct answer.



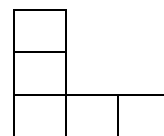
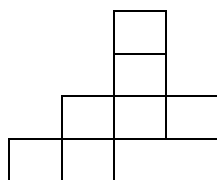
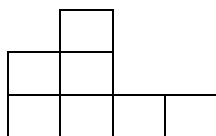
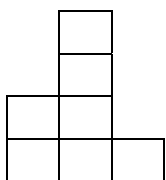
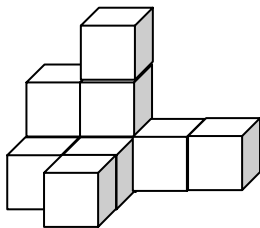
29. On the map grid below, Mombasa is in cell E1 and Kitale is in cell A4. What town is in cell E3?



Circle the letter that shows the correct answer.

- A. Nyeri
 - B. Nakuru
 - C. Garissa
 - D. Wajir
-

30. The sketch below represents some cubes that have been stacked together.



Which of the following sketches shows the left **side view** of the cube stack?

B

C

D

A

Circle the letter that shows the correct answer.

A. A

B. B

C. C

D. D

31. The amount of liquid in each container is written on its label. Read the labels to find out how much each container holds.



A



B



C



D



E

Order these items from the one that holds the most to the one that holds the least.

Write the letters of the items in order **from greatest volume to smallest volume**.

Circle the letter that shows the correct answer.

- A. A E C B D
- B. A E D C B
- C. A E D B C
- D. D B C E A

-
32. Simplify the following expression:
 $6(2k + 4) + 4(3k + m)$

Circle the letter that shows the correct answer.

- A. $24k + 24 + 4m$
 - B. $48k + 4m$
 - C. $24k + 28m$
 - D. $24k + 4m + 4$
-

33. Round off 68.487 to 2 decimal places.

Circle the letter that shows the correct answer.

- A. 68.48
 - B. 68.47
 - C. 68.49
 - D. 68.40
-

34. What unit of measurement should you use to measure the length of a school compound?

Circle the letter that shows the correct answer.

- A. mm
 - B. cm
 - C. m
 - D. km
-

35. Kandie watches TV for 220 minutes on Saturday. How many hours are these?

Circle the letter that shows the correct answer.

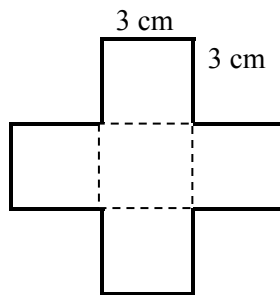
- A. 3 hours 40 minutes
 - B. 3 hours 20 minutes
 - C. 2 hours 20 minutes
 - D. 2 hours 40 minutes
-

36. $6.5 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

Circle the letter that shows the correct answer.

- A. 0.65 g
 - B. 65 g
 - C. 650 g
 - D. 6500 g
-

37. What is the area of the figure shown below?



Circle the letter that shows the correct answer.

- A. 5 cm^2
 - B. 9 cm^2
 - C. 15 cm^2
 - D. 45 cm^2
-

38. Mr Abdi marked some class tests for his Standard 6's. These are the results he recorded.

16, 24, 25, 25, 30, 36

What is the mean score of the six learners who wrote this test?

Circle the letter that shows the correct answer.

- A. 36
 - B. 25
 - C. 26
 - D. 156
-

39. Atieno slept at 11p.m. and woke up after 4 hours. What time did Atieno wake up in the 24-hour system?

Circle the letter that shows the correct answer.

- A. 2300 hours
 - B. 0300 hours
 - C. 0200 hours
 - D. 1500 hours
-

40. What is the approximate mass of your mathematics teacher?

Circle the letter that shows the correct answer.

- A. 600 g
 - B. 60 kg
 - C. 0.6 tons
 - D. 60 g
-