

## PART A: (Questions 1 to 25) : 1 mark each

For each question choose the best answer by writing $A, B, C$ or $D$ in the space provided on the ANSWER SHEET.

## Question 1

Solve this equation, $\left(\frac{3 x+12}{7}\right)=12$
A. 16
B. 24
C. 26
D. 72

## QUESTION 2

A length of fabric 46.8 metres long was divided in the ratio $2: 3: 1$. Find the length of the smallest proportion of the ratio.
A. $\quad 7.8 \mathrm{~m}$
B. 11.2 m
C. $\quad 15.6 \mathrm{~m}$
D. 23.4 m

## Question 3

A sales person receives a commission of $2.5 \%$ of the selling price of any vehicle that she sells. How much commission would she earn for selling a car worth K20 000?
A. K 200
B. K 300
C. K 400
D. K500

## QUESTION 4

A salesman earns K200 per week plus K40 commission for each item he sells. How many items does he need to sell to earn a total of K2640 in two weeks?
A. 33
B. 56
C. 61
D. 66

## Question 5

$12 a b-3 a+9 a^{2}$ fully factorized is,
A. $3 a(4 b-1+3 a)$
B. $3\left(4 a b-a+3 a^{2}\right)$
C. $a(12 b-3+9 a)$
D. $3 a b(4-1+3 a)$

## QUESTION 6

The sum of the set of numbers $1,8,2$, $\qquad$ , 13, 7 is 42 . What is the missing number?
A. 12
B. 11
C. 10
D. 5

## QUESTION 7

This pie graph below shows how the Oliver family spends its fortnightly budget of K630.00.


How much of the family's income is spent on school fees?
A. K 210.00
B. K 21.00
C. K20.10
D. K 12.00

## QUESTION 8

A pencil and two biros cost K1.80. Two pencils and a biro cost K1.20. What is the cost of two pencils?
A. K 1.80
B. $80 t$
C. 40 t
D. 20 t

## QUESTION 9

A 52 pack card is shuffled and one card is dealt. The probability that it is a diamond is;
A. $\frac{1}{52}$
B. $\frac{1}{13}$
C. $\frac{1}{4}$
D. $\frac{3}{4}$

## QUESTION 10

A machine fills 1000 bottles in 5 minutes. How many bottles will it fill in 2 minutes?
A. 200
B. 300
C. 400
D. 500

## QUESTION 11

Find the shaded area of the compound shape in $\mathrm{cm}^{2}$.

Use $\pi=3.14$

A. 144
B. 118.88
C. 93.76
D. 25.12

## Question 12

Find the total surface area in $\mathrm{cm}^{2}$ of the triangular prism below.

A. 84
B. 72
C. 64
D. 36

## QUESTION 13

Solve the simultaneous equations; $y=5 x+1$ and $y+x=13$
A. $-1,11$
B. $2,-11$
C. $-2,-1$
D. 2,11

## QUESTION 14

Bob bought a television set priced at K4000. He bought it on hire purchase by paying K215 per month for 2 years. How much interest did Bob pay?
A. K580
B. K 1160
C. K5160
D. K5040

## Question 15

The gradient of the line joining the points $(-5,3)$ and $(2,-4)$ is:
A. $\frac{7}{3}$
B. -1
C. $\frac{1}{3}$
D. $\frac{1}{7}$

## QUESTION 16

Simplify $\left(\frac{12 p}{3}\right)^{-2}$
A. $\left(\frac{3 p}{12}\right)^{2}$
B. $\left(\frac{3}{12 p}\right)$
C. $\left(\frac{1}{16 p^{2}}\right)$
D. $\left(\frac{1}{4 p^{2}}\right)$

## QUESTION 17

Triangle ABC is similar to triangle EFG.


What is the length in centimetres of the corresponding side to AB ?
A. 9
B. 12
C. 15
D. 25

## QUESTION 18

A certain number represented by $x$ is divided by three and then subtracted from eight giving the result of four. Which of these is the correct equation?
A. $x-\frac{8}{3}=4$
B. $\frac{8-x}{3}=4$
C. $8-\frac{x}{3}=4$
D. $8-x=\frac{4}{3}$

## QUESTION 19

When simplified; $\frac{7 a b}{9} \div \frac{5 b}{6}$
A. $\frac{14 a}{15}$
B. $\frac{35 a b^{2}}{54}$
C. $\frac{54}{35 a b^{2}}$
D. $\frac{42 a}{45}$

## QUESTION 20

What is 3789 written in scientific notation?
A. $\quad 3.789 \times 10^{3}$
B. $37.39 \times 10^{2}$
C. $3.739 \times 100$
D. $3.789 \times 1000$

## QUESTION 21

The algebraic expression giving the area of the triangle is:

A. $\frac{(2 x-y)(4 x+2 y)}{2}$
B. $\frac{8 x^{2}-8 x y-2 y^{2}}{2}$
C. $8 x^{2}-2 y^{2}$
D. $\frac{4 x^{2}-y^{2}}{2}$

## QUESTION 22

Find the value of the pro-numeral $b$ in degrees for the diagram below.

A. $18^{\circ}$
B. $36^{\circ}$
C. $48^{\circ}$
D. $72^{\circ}$

## QUESTION 23

Find the shaded area in this rectangle in $\mathrm{m}^{2}$

A. 33
B. 39
C. 45
D. 51

## QUESTION 24

Calculate the radius of a circle in cm whose area is $12.56 \mathrm{~cm}^{2}$. Use $\pi=3.14$
A. 1.0
B. 1.5
C. 2.0
D. 2.5

## QUESTION 25

Four 1-litre bowl of fruit punch were set out at a party. After the party 1 bowl was empty, 2 were half full and 1 was three quarter full. How many litres of fruit punch had been used?
A. $3 \frac{3}{4}$
B. $2 \frac{3}{4}$
C. $2 \frac{1}{4}$
D. $1 \frac{3}{4}$

## PART B (Questions 26 to 45) : 1 mark each.

## Work out your answer and write it in the spaces provided on the ANSWER SHEET.

Use the bar graph below to answer questions Q26 and Q27.


## Question 26

How many families participated in the survey?

## QUestion 27

How many children were there altogether?

## Question 28

$a-2, a-1, a, a+1$, and $a+2$ are five numbers.
Find the mean of these five numbers.

## Question 29

The sum of 4 consecutive odd numbers is 72 .
Find the third number.

## Questions 30 and 31 refer to the information below.

The table shows the number of glasses of water drunk by a group of students.

| Number of <br> glasses drunk | 1 | 2 | 3 | 4 | 5 | 6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Frequency | 10 | 3 | 5 | 2 | 6 | 4 |

## Question 30

Find the number of students who drank less than 3 glasses of water

## QUESTION 31

Find the number of students who drank four and less number of glasses of water

Question 32
If $5 x+10=2 x+4$. The value of $x$ is?

## Question 33

A dice is rolled once. What is the probability of scoring an even number? Give your answer as a fraction in its simplest form.

QUESTION 34
The mean score of four girls was 64. A fifth girl scored 54 . What was the mean score of the five girls?

Use the graph below to answer Questions 35 and 36.


## Question 35

Between which of the three intervals ( $\mathrm{A}, \mathrm{B}$ or C ) was the car travelling the fastest?

## Question 36

How long in minutes did the car stop?

## Question 37

Simplify the expression to its simplest form.

$$
\frac{2 x^{n} y^{4}}{2 x^{n-1} y^{3}}
$$

## Question 38

Find the $y$-intercept of a straight line passing through the point $(2,4)$ whose gradient is 3 .

## Question 39

A ship sails on a bearing of $150^{\circ}$ for a distance of 35 km .


How far east is the ship from its starting point?

Use the table below to answer questions 40 and 41.

A survey was conducted where students were asked to estimate how many hours in one week they use to carry out some form of exercise.

Below is the result of the survey.

| Number of hours | Frequency |
| :--- | :--- |
| $0-2$ | 3 |
| $3-5$ | 7 |
| $6-7$ | 18 |
| $8-9$ | 9 |
| $\geq 10$ | 3 |

## Question 40

How many students exercise 8 hours and more each week?

## Question 41

What is the percentage of students that exercise less than 6 hours in a week?

## QUESTION 42

What are the coordinates of the point of intersection of the two lines?


## QUESTION 43

Komboni is three years younger than Ambassi.
The sum of their age is 37 .
How old is Komboni?

## QUESTION 44

Every day Wayne arrived 5 minutes late for work. Each year he works 5 days per week for fortyeight weeks. Find the total number of hours that Wayne is late in one year.

## QUESTION 45

Find the perimeter of this compound shape in cm .
Use $\pi=3.14$


## PART C: EXTENDED RESPONSE

## QUESTION 46

Refer to the table below to answer the following questions.

A boat-hire company charges the following rates for one of its outboard motor boats.

| Daily Hire Cost |  |
| :--- | :--- |
| 1 day | $2-5$ days |
| K1000.00 | K800.00 |
| Fuel Cost: K3.50 per litre |  |

a) If Sheila was to hire the boat for 4 days and also buy 50 litres of fuel, how much altogether would she pay?
b) How much was spent on fuel if the total cost of hire in 3 days was K1550.00?
c) If the rate of fuel consumption is 2 litres per kilometre, how many litres of fuel would be used if the boat is to covers a distance of 100 km ?
d) The boat travels at a speed of 80 km per hour. How long does it take to travel 240km?
e) The capacity of the boat's fuel tank is 25 litres. At the rate of 2 litres per kilometre, what percentage of fuel will be left in the fuel tank if a distance of 10 km is covered?

