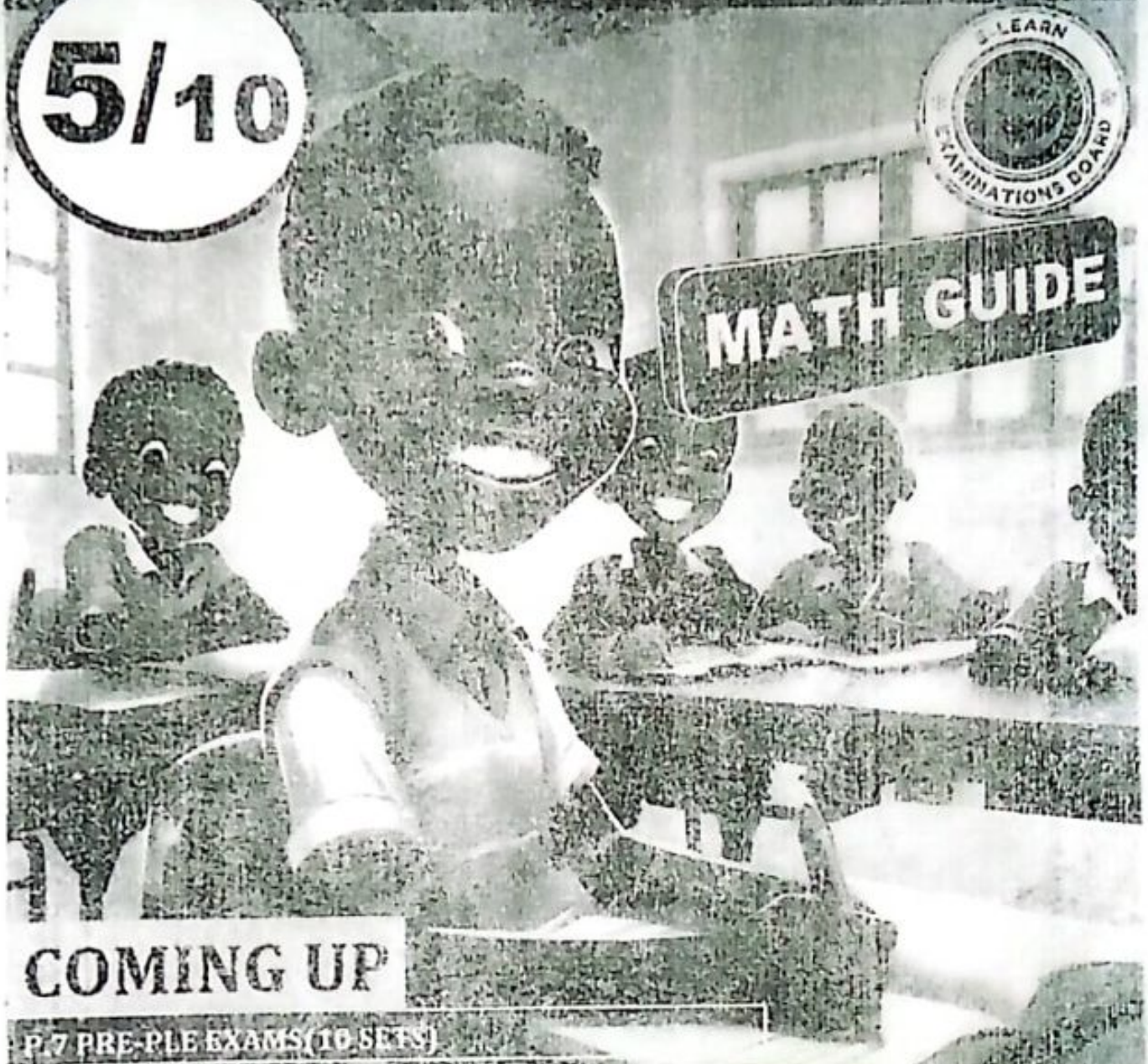
PRE PLE 2024

5/10



COMING UP

P.7 PRE-PLE EXAMS(10 SETS)

NAME: .....

SCHOOL: .....

0780-438054 0708-438054

SECTION A: 40 *MARKS*

*Answer **all** the questions in this section.*

*Questions **1** to **20** carry **two** marks each.*

1. Multiply:

$$\begin{array}{r} 13 \\ \times\ 2 \\ \hline 26 \end{array} \qquad \begin{array}{r} 10+3 \\ \times\ \ 2 \\ \hline 20+6=26 \end{array}$$

B_2 for correct answer

2. Find the next two numerals in the sequence below;

81, 64, 49, 36, 25, 15

-17 -15 -13 -11 -9

M_1 for the type of numbers used.
A_1 for the correct next numbers used.

3. Write **eighteen thousand eighteen** in figures.

18,000 + 18

$$\begin{array}{r} 18{,}000 \\ +\ \ 18 \\ \hline 18{,}018 \end{array}$$

M_1 for correct expansion and arrangement.
A_1 for the correct answer 18,018

4. Find the circumference of a circle whose diameter is 14cm.

$C = \pi D$

$C = \frac{22}{7} \times 14cm$

$C = \frac{22 \times \overset{2}{\cancel{14}}}{\underset{1}{\cancel{7}}} \times 14cm$

$22 \times 2cm$

$44cm$

M_1 for substitution.
A_1 for the correct answer 44cm
Reject any answer without units

5. Solve for h: 3(h-6) = 0

$3(h-6) = 0$
$3h-18 = 0$
$3h-18+18 = 0+18$
$3h = 18$
$\frac{3h}{3} = \frac{18}{3}$ 6
$h = 6$

M_1 for opening brackets.
A_1 for the correct answer h=6
Go through learner's work

6. Simplify: 7 + ¯7

$7+-7 = 7(+\ ¯)7$
$= 7-7$
$= 0$

A_2 for correct answer
Reject the use of a number line since the question requires one to simplify not to workout.

2

7. There were 1500 pupils in a school last term. The population grew by 20% this term. How many pupils are there this term?

%increase = 100+20
= 120%
Number of pupils
$\frac{120}{100}$x1500
(120 x 15)
=1800 pupils

20% of 1500 pupils
$\frac{120}{100}$x1500
= (20 x 15)
=1800 pupils

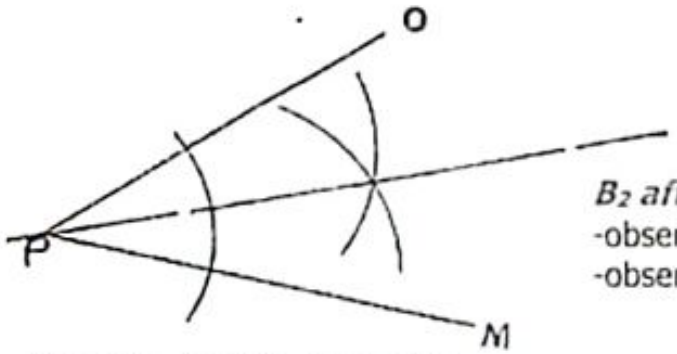
Accept both approaches
Reject answers without units

8. Find the range of 4, 0, 6 and 3.

Range = HV-LV
R =6-0
R =6

M_1 for correct identification of high and low numbers.
A_1 for correct answer 6

9. Using a ruler, a pencil and a pair of compasses, bisect the acute angle **OPM**



B_2 after going through.
-observation of arcs.
-observation of the line.

10. Simplify: $(3X\ 5^2) + (4X\ 5°)$

$(3X\ 5^2) + (4X\ 5°)$
$(3X\ 5x5) + (4X\ 1)$
$75 + 4$
=79

M_1 for correct expansion
A_1 for the final answer.

11. A football match that lasted $1\frac{2}{3}$ hours ended at 6: 40 pm. At what time did it start?

Time taken 1 Duration = $1\frac{2}{3}$x60mins)
= 1hr 40 minutes

Ending time is 6:40pm
starting time =(E.T – Duration)

Hr	Mins
6	40
1	40

It started at =5 00pm

M_1 for correct arrangement and operation
A_2 for the final answer.
Reject any answers without units.

12. A motorist covered 144km in 2hours. Calculate his speed in metres per second.

Speed(km/hr)

$= \frac{D}{T}$

$= \frac{144km}{2hr}$

=72km/hr

1km/hr ⟶ ms/s

72km ⟶ 72x1000m

D = 72000m

Time in seconds

1 minute = 60 seconds

1hour = 60x60 ⟶ 36000sec

$S = \frac{72000m}{3600s}$

= 20m/s

B_1 for 72 Km/hr

A_1 for 20m/s

Reject $(\frac{DX1000}{3600})$**sec**

13. Divide 30 by 0.6

$\frac{30}{1} \div \frac{6}{10}$

$\frac{30}{1} \times \frac{10}{6}$

$\frac{5}{\frac{30X10}{6}}$

=5X10

=50

M_1 for reciprocal method for division of fractions

A_1 for 50

Accept all correct approaches.

14. Write LXX in Hindu-Arabic numeral

LXX = 50+10+10

=70

Follow through learner's work

B_2 for 70

Accept all correct approaches.

15. Simplify: 2-3(2-3)

2-3(2-3)

2 − 6 + 9

=5

M_1 for opening brackets

A_1 for 5

Accept other correct approaches

16. Calculate the simple interest earned on a fixed bank deposit of sh.120,000 at a rate of 3% p.a for 3 years

SI=PXRXT

= sh. 120,000 x $\frac{3}{100}$x3 4

= sh. 12,00x9
= sh. 10800

M₁ for = sh. 120,000 $x\frac{3}{12}x\frac{3}{100}$
A₁ for sh. 900
Reject PXTXR and sh. $120{,}000x3x\frac{3}{100}$
100

17. Find the square root of 36.

$\sqrt{36}$ $\sqrt{6X6}$

= 6

Reject any work without a square root in the first step of the working

18. Simplify: $\frac{2}{5}-\frac{1}{2}+\frac{1}{3}$

$(\frac{2}{5}+\frac{1}{3})-\frac{1}{2}$

$\frac{(\frac{2}{5}x15)+(\frac{1}{3}x15)-\frac{1}{2}}{15}$

$\frac{(\frac{2}{5}x\cancel{15}^{3})+(\frac{1}{3}x\cancel{15}^{5})-\frac{1}{2}}{\cancel{15}}$

$\frac{(2x3)+(1x5)-\frac{1}{2}}{15}$

$\frac{(6+5)-\frac{1}{2}}{15}$

$\frac{(11)-\frac{1}{2}}{15}$

$(\frac{11}{15}-\frac{1}{2})$

$\frac{(\frac{11}{15}x30)-(\frac{1}{2}x30)}{30}$

$\frac{(\frac{11}{\cancel{15}}x\overset{2}{\cancel{30}})-(\frac{1}{2}x\overset{15}{\cancel{30}})}{30}$

$\frac{(11x2)-(1x15)}{30}$

$\frac{22-15}{30}$

$\frac{7}{30}$

Accept other correct approaches

19. If $p*q = 2q-\frac{1}{2}p$, find the value of 2*4

$(2X4)-(\frac{1}{2}X2)$

=8-1

=7

M₁ for correct substitution
A₁ for 7

20. Paul was standing in a line of boys such that he was the **12th** from one end and **18th** from the other end of the line. How many boys were in that line?

number of children

$(12th+18th)-1$

= 30 -1

=29 boys

SECTION B: 60 MARKS

*Answer **all** the questions in this section.*

Marks for each question are indicated in brackets.

21. Peter scored the following marks in a series of tests:

75, 90, 86, 75, 81 and 79.

(a) Find the modal mark *(01 mark)*

75	86	79	90	81
//	/	/	/	/

Modal mark is 75

B_1 for correct identification

(b) What is the median mark? *(02 mark)*

Median

75, 75, 79, 81, 86, 90

Average of 79 and 81

$$\frac{79+81}{2}$$

$$= \frac{160^{80}}{2}$$

$$= 80$$

M_1 for adding the remaining data being collected
A_1 for 80

Accept data organized in descending and ascending order

(c) Work out Peter's mean score. *(02 mark)*

$$\text{mean} = \frac{\text{sum of marks}}{\text{number of tests}}$$

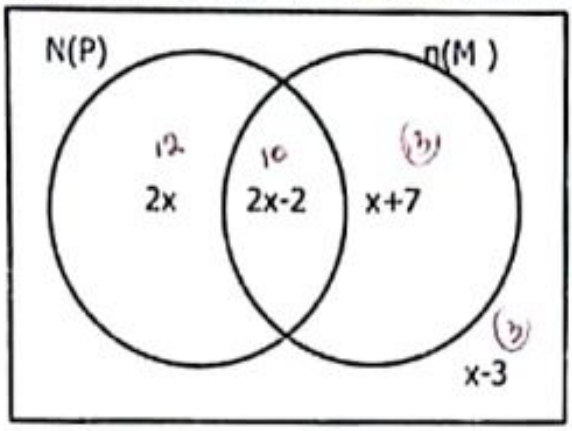
$$= \frac{75+75+79+81+86+90}{6}$$

$$\frac{480^{81}}{6}$$

$$= 81 \text{ marks}$$

M_1 for adding the data collected
A_1 for 81 marks
Accept 81

22. Below is a Venn diagram showing the number of boys who like mangoes (M) an passion fruits (P). Use it to answer the questions that follow.



(a) Find the value of x if 23 boys like mangoes. *(03 marks)*

VALUE OF X =

$(P \cap M) + (M - P) = 23$

$(2x-2)+(x+7)=23$

$2x+x+7-2=23$

$3x+5=23$

$3x+5-5=23-5$

$\frac{3x}{3}=\frac{18}{3}$

$x = 6$

M_1 for correct formation
M_1 for collecting like terms
A_1 for correct answer

(b) What is the probability of picking a boy at random who likes neither of the two fruits? *(02 marks)*

Neither $= (P \cap M)^1$

$=x-3$

$=6-3$

$=3$

M_1 for collecting like terms
A_1 for correct answer

$n(\varepsilon)=2x+2x-3+x+7+x-3$

$= 12+12-3+6+7+3-3$

$=12+9+6+7+3$

$= 37$

Probability $= \frac{3}{37}$

7

54

7 ⟌380

31

35

28

3. (a) The book shelves in a library can carry 240 books at 60 books per shelf. How many more shelves are needed to carry 420 books? *(02 marks)*

Number of shelves for 240 books

60 books ⟶ 1 shelf

240 books ⟶ $\frac{240}{60}$

= 4 shelves

Number of shelves for 420 books

60 books ⟶ 1 shelf

420 books ⟶ $\frac{420}{60}$

= 7 shelves

B_1 for shelves
A_1 for difference

Difference is 7-4

= 3 more shelves

(b) A taxi carrying 8 adults and 4 children left new taxi park heading to Mukono. If each adult and each child paid a fare sh.5000 and sh.3000 respectively, how much money did the driver collect in total? *(03 marks)*

Adults(8)

1 adult ⟶ sh. 5000

8 adults ⟶ sh. 5000x8

Sh. 40,000

Children(4)

1 child ⟶ sh. 3000

4 adults ⟶ sh. 3000x4

Sh. 12,000

B_1 for adults sh. 40,000
B_1 for children
A_1 for total collection
Reject any answer without units

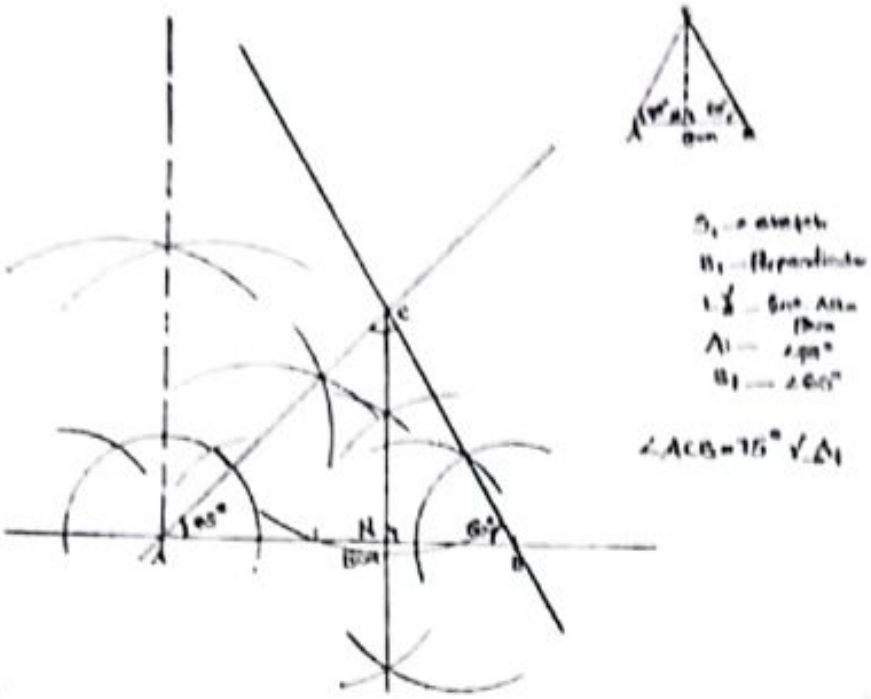
total collection

sh. 40,000

+ sh. 12,000

Sh. 5,000

24. (a) Using a ruler, a pencil and a pair of compasses, construct a triangle **ABC** where **AB** = 8cm, **ABC** = 60° and **BAC** = 45°. Drop a perpendicular line from point C to meet line **AB** at **N**. *(04marks)*



(b) Measure angle ACB. *(01mark)*

≤ACB= 75⁰

25. (a) Solve the inequality: $5m - 3 \geq 7(m + 1)$ *(02marks)*

$5m - 3 + 3 \geq 7m + 7 + 3$

$5m \geq 7m + 10$

$5m - 7m \geq 7m - 7m + 10$

$\frac{-2m}{-2} \leq \frac{10}{-2}$

$m \leq -5$

M_1 for correct collection of like terms

A_1 for $m \leq -5$

Go through learner's work

After division of negatives the sign changes to less than or equal to.

(b) Kevin is 12years old now and his friend Kathy is 27years. After how many years will Kathy be twice as old as Kevin? *(03 marks)*

Let the year be k

$$\text{kevin} = 2(12 + k)$$
$$\text{kaily} = (27 + k)$$
$$2(12 + k) = 27 + k$$
$$24 + 2k - k = 27 + k - k$$
$$24\_24k = 27\text{-}24$$

K = 3 years

M_1 for Kevin's formation
M_1 for collection of like terms
A_1 for value of k
Go through learner's work

26. Below are flash cards having different digits as shown. Use them to answer the questions that follow.

3	5	0	1	4	2

(a) Form the largest 3-digit numeral using odd digits. *(02 marks)*

largest(using odd numbers)
=531

To form the largest, follow the descending order but using odd numbers

(b) What smallest 3-digit numeral can be formed by even digits? *(02 marks)*

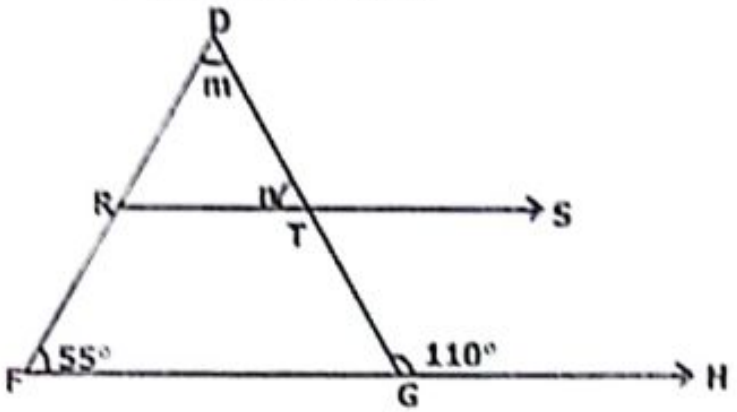
smallest(using even numbers)
=204

To form the smallest, follow the ascending order but using even numbers.

(c) Write the number on the second flash card in Roman numerals. *(01 mark)*

the number is 5
The roman numeral is V

27. In the figure below line RS and FH are parallel. Angle DFG=55° and angle DGH=110°. Use it to answer questions that follow.



Calculate the size of angle; *(02 marks)*

(i) n

$n + 110^0 = 180^0$

$n + 110^0 - 110^0 = 180^0 - 110^0$

$n = 70^0$

M_1 for correct formation
M_1 for collection of like terms
A_1 for value of n
Reject any answers without units

(ii) m *(03 marks)*

$m + n + 55^0 = 180^0$

$m + 70^0 + 55^0 = 180^0$

$m + 125^0 = 180^0 - 125^0$

$\therefore m = 55^0$

M_1 for correct formation
M_1 for collection of like terms
A_1 for value of m
Reject any answers without units

28. In a group of girls 1/3 like chips, 1/4 of the remainder like chicken and the re like fish

(a) What fraction of the girls likes fish? *(03marks)*

chips	remainder	chicken	total fraction	fish
$\frac{1}{3}$	$1 - \frac{1}{3}$ $= \frac{3}{3} - \frac{1}{3}$ $= \frac{2}{3}$	$\frac{1}{4}$ of $\frac{2}{3}$ $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$ $\frac{1}{6}$	$\frac{1}{3} + \frac{1}{6} = \frac{2+1}{6}$ $\frac{3}{6} = \frac{1}{2}$	$1 - \frac{1}{3}$ $= \frac{3}{3} - \frac{1}{3}$ $= \frac{2}{3}$

(b) If 5 girls like chips, how many girls are in that group altogether?

(02marks)

1part ⟶ 5 girls
3 parts ⟶ (3X5)
= 15 girls

M_1 for correct method used
A_1 for correct final answer
Reject any answers without units

29. (a) Add: $132_{four} + 21_{four}$ *(02marks)*

$$\begin{array}{r} {\scriptstyle 1} \\ 1\,3\,2_{four} \\ +\ 2\,1_{four} \\ \hline 2\,1\,3_{four} \end{array}$$

3+2 =5
5÷4=1r1
1+1=2

B_1 for correct addition of numbers in base four

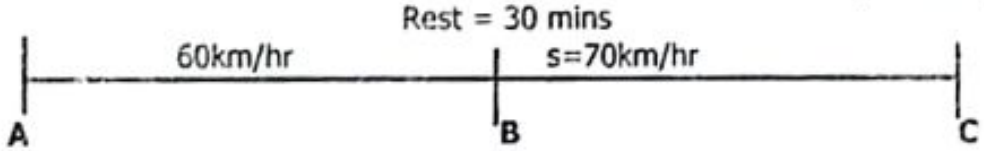
(b) Solve for k: $2k = 4$ (finite 5) *(03marks)*

$\frac{2k}{2} - \frac{4}{2}$

K = 2 (finite 5)

30. A motorist started his journey from town A at 7:30 a.m moving at a speed of 60km/hr and reached town B at 9:30 am. After resting for 30 minutes at B, he continued to town C moving at a speed of 70km/hr for 1 hours. Calculate the motorist's average speed for the whole journey.

(05 marks)



Distance A to B
D=(SXT)
T= 9:30
- 7:30
2:00
D=60X2hrs
=60km/hr x 2hrs
D = 120 km

Distance B to C
D=(SXT)
D= 70km/hrX1hr
70kmx1
D=70km

Total distance
120km +70km
190km
Average speed = $\frac{\text{T.D.C}}{\text{T.T.T}}$

$$\frac{190km}{2hrs + 1\frac{1}{2}hr} = \frac{190}{3\frac{1}{2}}$$

$5\overline{)190}$ 38
15
40
40

$\frac{38}{2}$
76

M_1 *for getting the duration*

190km ÷ $\frac{7}{2}$ hrs

190km x $\frac{2}{7}$ hrs

54 rem 2

~~380~~ km

~~7~~ hrs

B_1 *for distance D1*

B_1 *for distance D2*

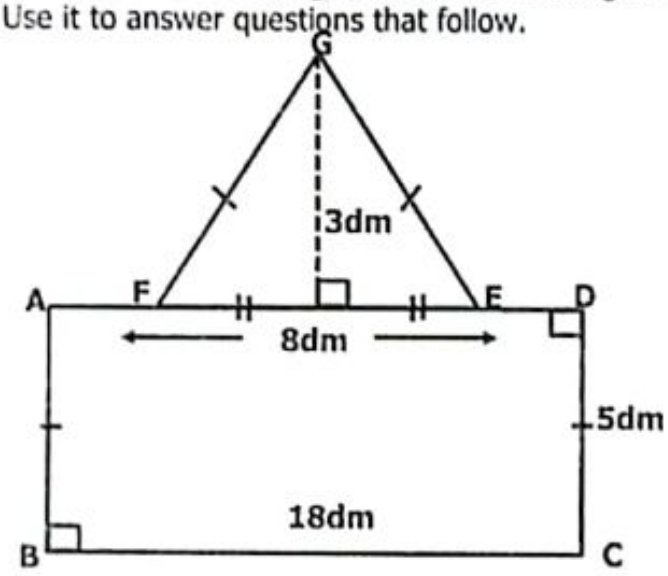
B_1 *for total distance 225km*

A_1 *for average speed 75km/hr*

Reject answers without units

54.2km/h or $54\frac{2}{2}\,km/h$

31. In the figure below ABCD is a rectangle and EFG is a triangle. Given that line DC= side FG. Use it to answer questions that follow.



(a) Find the area of the whole figure. *(03 marks)*

Area of a triangle

$A = \frac{1}{2}xbxh$

$= \frac{1}{2}x8^4dmx3dm$

$=12dm^2$

Area of a rectangle

$A = LXW$

$=18dm\ X\ 5dm$

$=90dm^2$

Total Area

$= 90dm^2 + 12dm^2$

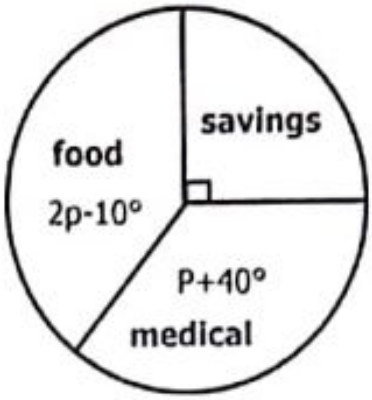
$=102dm^2$

B_1 *for area of triangle BFG*

B_1 *for area of a rectangle*

Reject answers without units

32. The pie-chart below shows how Okecho spends his wages on various items.



(a) Find the value of p *(02marks)*

$p + 40^0 + 2p - 10^0 + 90^0 = 360^0$

$3p + 40^0 + 90^0 - 10^0 = 360^0$

$3p + 130^0 - 10^0 = 360^0$

$3p + 120^0 = 360^0$

$3p + 120^0 - 120^\circ = 360^0 - 120^0$

$$\frac{3p}{3} = \frac{240^\circ}{3}$$

$P = 80^\circ$

M_1 for correct formation of an equation
A_1 for the value of P as 80°
Reject answers without units
Go through learner's work

(b) If he spends 240,000 on medical, how much are his total wages?
(03marks)

medical sector

$P + 40^\circ$

$80^\circ + 40^\circ$

$= 120^\circ$

$120^\circ \longrightarrow$ sh. 240,000

$\longrightarrow$ sh $\frac{240,000}{120^\circ}$

$360 \longrightarrow (\frac{sh.240,000}{120^\circ} \times 360^\circ$ (3)

$3 \times 240,000$

$=$ sh. 720,000

B_1 for medical sector 120°
M_1 for correct method applied
A_1 for final answer sh. 720,000
Reject answers without units