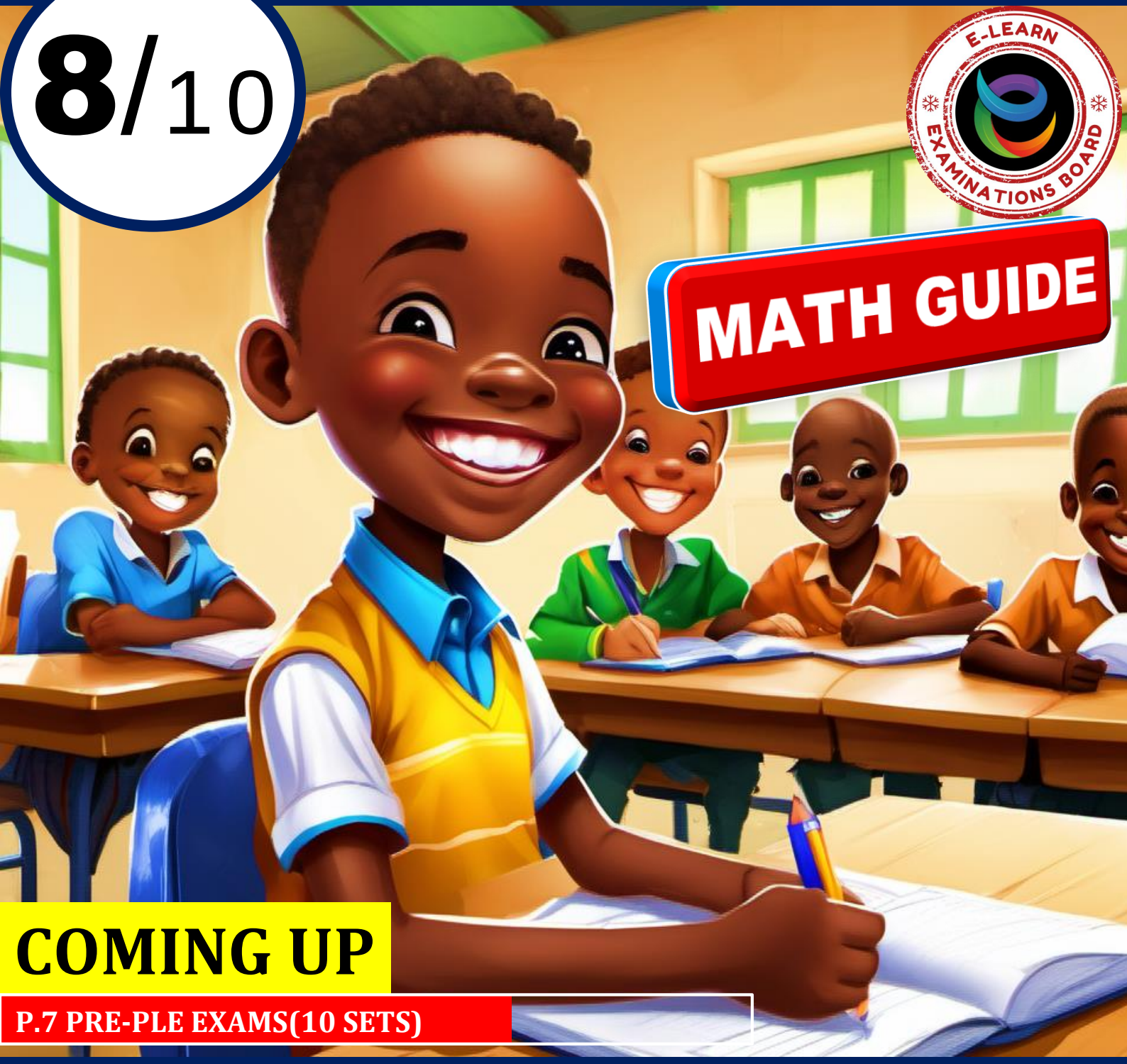
PRE PLE 2024

8/10



E-LEARN EXAMINATIONS BOARD

MATH GUIDE

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. Divide: 36 ÷ 9

$9\overline{)\begin{matrix}04\\36\\0\end{matrix}}$

36

- 36

00 ∴ 36÷9=4

M_1 for correct working

A_1 for correct answer

2. Find the square root of $\mathbf{1\frac{7}{9}}$

$1\overset{+}{\underset{x}{}}\frac{7}{9}$

$\sqrt{\frac{16}{9}}$

2	16
2	8
2	4
2	2
	1

$\sqrt{\frac{(2X2)X\,(2X2)}{3X3}}$

$\sqrt{\frac{2X\,2}{3}}$ $\frac{4}{3}$ 1 r 1

$1\frac{1}{3}$

M_1 for correct working

A_1 for correct answer

3. Solve for **x**: 2.5 - 2x = 0.5

2.5 – 2x = 0.5

2.5 – 2.5 - 2x = 0.5-2.5

$\frac{-2x}{-2}=\frac{-2}{-2}$

X = 1

M_1 for correct working

A_1 for correct answer

4. Find the next two numbers in the sequence below:

81, 27, 9, 3, 1, $\frac{1}{3}$

÷3 ÷3 ÷3 ÷3

B_1 for dividing by three

B_1 for correct answer

5. A mathematics lesson lasted for $\mathbf{1\frac{3}{4}}$ hours. If it began at 11.30am, at what time did it end?

HRS	MINS
11	30
+1	45
13	15

HRS	MINS
13	15
-12	00
1	15

B_1 for the first in 24 hours

B_1 for correct answer in 12 hours

At 1:15pm

6. Jocob is 2years younger than Abdu. If their total age is 36 years, how old is Abdu?

let Adult's age be a

Abdul	Jacob	Sum
a	a-2	36

a+a-2=36

2a-2 = 36

$2a - 2 + 2 = 36 + 2$

$\frac{2a}{2} = \frac{38}{2}$

M_1 for formation of the equation

A_1 for correct answer

a = 19

Abdu is 19 years old

7. Find the radius of a circle whose area is 616cm^2

$\pi r^2 = area\ (use\ area\ as\ 616cm^2)$

$\frac{22}{7} r2 = \frac{616cmx7}{22}$

$\sqrt{r2} = \sqrt{196cm}\,2$

$\sqrt{rxr} = \sqrt{14\ cm\ x\ 14cm}$

r = 14cm

M_1 for correct formation

A_1 for correct answer

Therefore, radius = 14dm

8. Joram received 18 bank notes of the same denomination amounting to sh. 90,000. Calculate the value of each bank note.

Each note ⟶ amount

No of notes

sh 90,000 / 18 = 5000 / 1

sh 5000

M_1 for division

A_1 for sh 5000

9. Calculate the mean of: **6m + 5**, **7** and **9m - 3**

$$\text{Mean} = \frac{\text{sum of data}}{\text{No of data}}$$

$$\text{Mean} = \frac{6m+9m+5+7-3}{3}$$

$$\text{Mean} = \frac{15m+(12-3)}{3}$$

$$\text{Mean} = \frac{\overset{5}{\cancel{15}}m}{\cancel{3}_{1}} + \frac{\cancel{9}^{3}}{\cancel{3}_{1}}$$

M_1 for correct working

A_1 for 5m+3

Mean = 5m+3

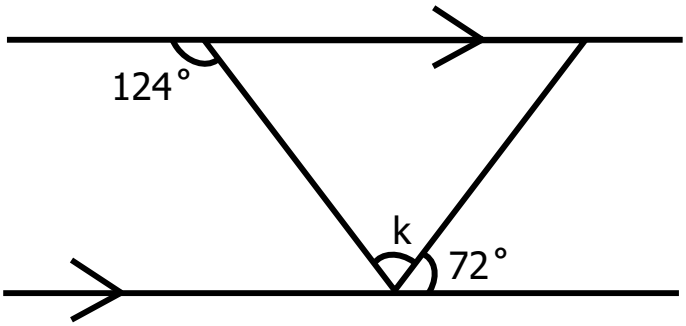
10. Expand **34.98** using powers of ten

10^1	10^0	10^{-1}	10^{-2}
3	4	9	8

B_2 for correct answer

$$(3x10^1)+(4x10^0)+(9x10^{-1})+(8x10^{-2})$$

11. Find the size of angle marked **k**



$K + 72^0 = 124^0$ (alt angles)

$K + 72^0 - 72^0 = 124^0 - 72^0$

$K = 52^0$

Method 2

$K = 124^0 - 72^0$

$K = 52^0$

Method 3

$K = 180^0 - (72^0 + 56^0)$

$K = 180^0 - 128^0$

$K = 52^0$

M_1 for formation of the equation

A_1 for correct answer

12. Four men can slash a compound in nine days. How many more men are neede to do the same piece of work in two days?

$\left(\frac{4X9}{2}\right)$ **men**

$(2X9)$ **men**

18 men

Difference

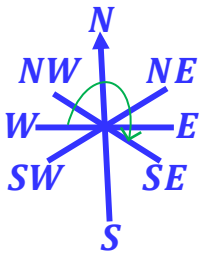
(18-4)more

12 more men

B_1 for 18 men

B_1 for 12 more men

13. Opio turned through an angle of 225° clockwise to face South East. Find his original direction



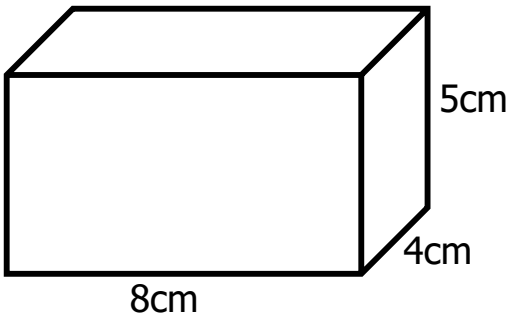
B_1 for diagram

B_1 for *west*

Opio was at west

Opio was at western direction

14. Find the length of the wire needed to make the figure below



M_1 for correct method

A_1 for *correct answer*

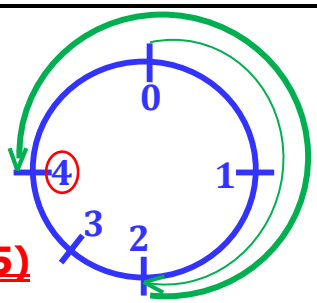
$4(L+W+H)$

$4(8\text{cm}+4\text{cm}+5\text{cm})$

(4x17)cm

68cm

15. Workout: 2-3 = _ (finite 5) using clock arithmetic.

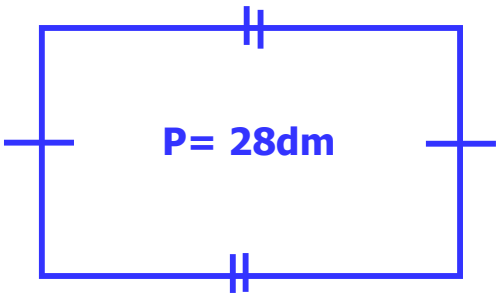


B_1 for using dial

A_1 for *correct answer*

∴2-3=4(finite5)

16. The length and width of a rectangle are in the ratio of 5:2 respectively. If the perimeter of the rectangle is 28dm, find its actual length.



Total ratio: 5+2 = 7

LENGTH

$\frac{5}{7} \times 28^{4}$

$20dm$

$10dm$

M_1 for $\frac{5}{7}$ X 28

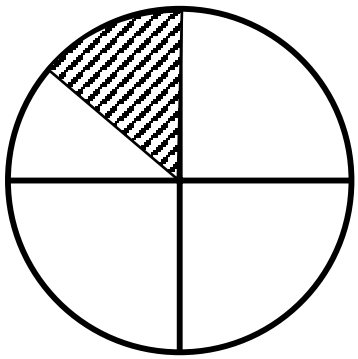
A_1 for *correct answer*

17. Find the percentage of the un shaded part

$\frac{7}{8} x\ 100\%$

700%

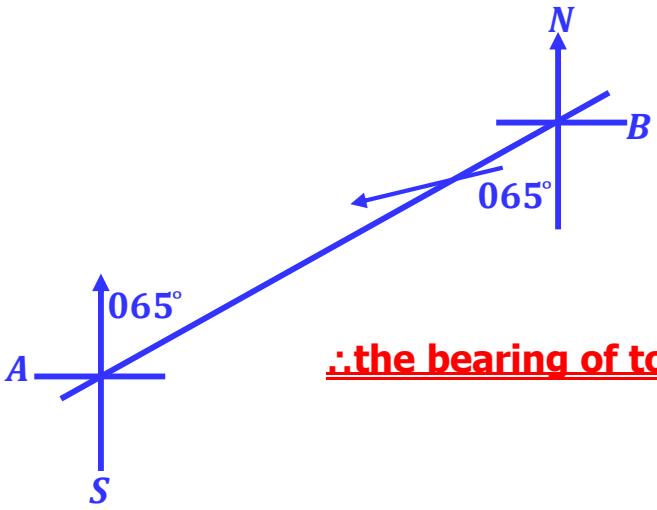
$87\frac{1}{2}\%$



M_1 for *correct formation*

A_1 for *correct answer*

18. The direction of town **A** from town **B** is **S65°W**. Find the bearing of town B from town A



∴the bearing of town B is 065⁰

19. Express $\frac{5}{8}$ as a decimal fraction

M₁ for *correct method*

A₁ for *correct answer*

$$8\overline{)5.000} = 0.625$$

$0X8 = 0$, remainder 50

$6X8 = 48$, remainder 20

$2X8 = 16$, remainder 40

$5X8 = 40$, remainder 0

∴ $\frac{5}{8}$ = 0.625

20. Workout the complement of **y + 60°**

M₁ for *removal of brackets*

A₁ for *correct answer*

$90^0-(y+60^0)$

90^0-y-60^0

90^0-60^0-y

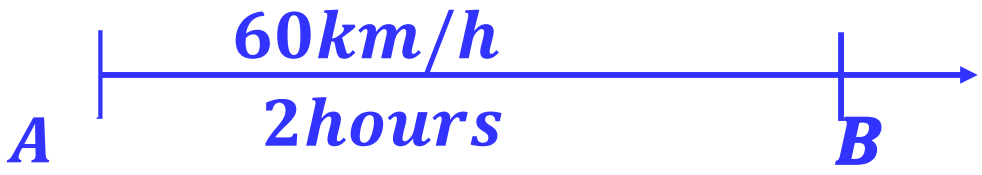
30^0-y

SECTION B: 60 MARKS

*Answer **all** the questions in this section.*
Marks for each question are indicated in brackets.

21. A school driver drove at 60km/h for 3hours from town A to town B. He then returned to town A at a speed of 90km/h.

(a) Calculate the distance from town A to town B
(02marks)



Speed=$90km/h$

D= SXT

D= $\frac{60km\ X\ 2hrs}{hr}$

M_1 for $correct\ formation\ of\ SXT$

A_1 for $correct\ answer$

D= $\underline{120km}$

(b) Calculate the average speed for the whole journey *(03 marks)*

Runtime

$T = \frac{D}{S}$

$T = \frac{120Km}{90km/h} x\ hrs$

$T = 1\frac{1}{3} hrs$

B_1 for $1\frac{1}{3} hrs$

M_1 for $correct\ formation$

A_1 correct answer

$A.S = \frac{TDC}{TTT}$

$A.S = \frac{120Km + 120Km}{2hrs + 1\frac{1}{3}hrs} x\ hrs$

$A.S = 240Km \div 3\frac{1}{3} hrs$

$A.S = 240Km \div \frac{10}{3} hrs$

$A.S = 240Km\ X\ \frac{3}{10} hrs$

$\underline{A.S = 72Km/h}$

22. In a group of people, $\frac{3}{5}$ of them are males and the rest are females.

$\frac{2}{3}$ of the ... $\frac{1}{2}$ of the ... If the ... 1200 ... in the city, find the total population of the people in the city.

(05 marks)

Males

$\frac{3}{5}$

boys

$\frac{2}{3} X \frac{3}{5}$

$\frac{2}{5}$

Adults

$\frac{3}{5} - \frac{2}{5} = \frac{1}{5}$

Females

$\frac{5}{5} - \frac{3}{5} = \frac{2}{5}$

girls

$\frac{1}{2} X \frac{2}{5}$

$\frac{1}{5}$

Adults

$\frac{2}{5} - \frac{1}{5} = \frac{1}{5}$

$\frac{1}{5} + \frac{1}{5} \rightarrow 1200$

$\frac{2}{5} \rightarrow 1200$

$1200 \div \frac{2}{5}$

$\overset{600}{\cancel{1200}} \div \frac{5}{\cancel{2}_{1}}$

$600X5(people)$

$3000\ people$

B_1 for $\frac{2}{5} hrs$

B_1 for $\frac{1}{5}$ girls

M_1 for $1200 \div \frac{2}{5} hrs$

M_1 for $600\ X\ 5$

A_1 correct answer

23. (a) Using a ruler, a sharp pencil and a pair of compasses, construct a triangle **ABC** in which **AB** = 8cm, angle **ABC** = angle **BAC** = 45° Drop a perpendicular line from C to meet AB at D

(04 marks)

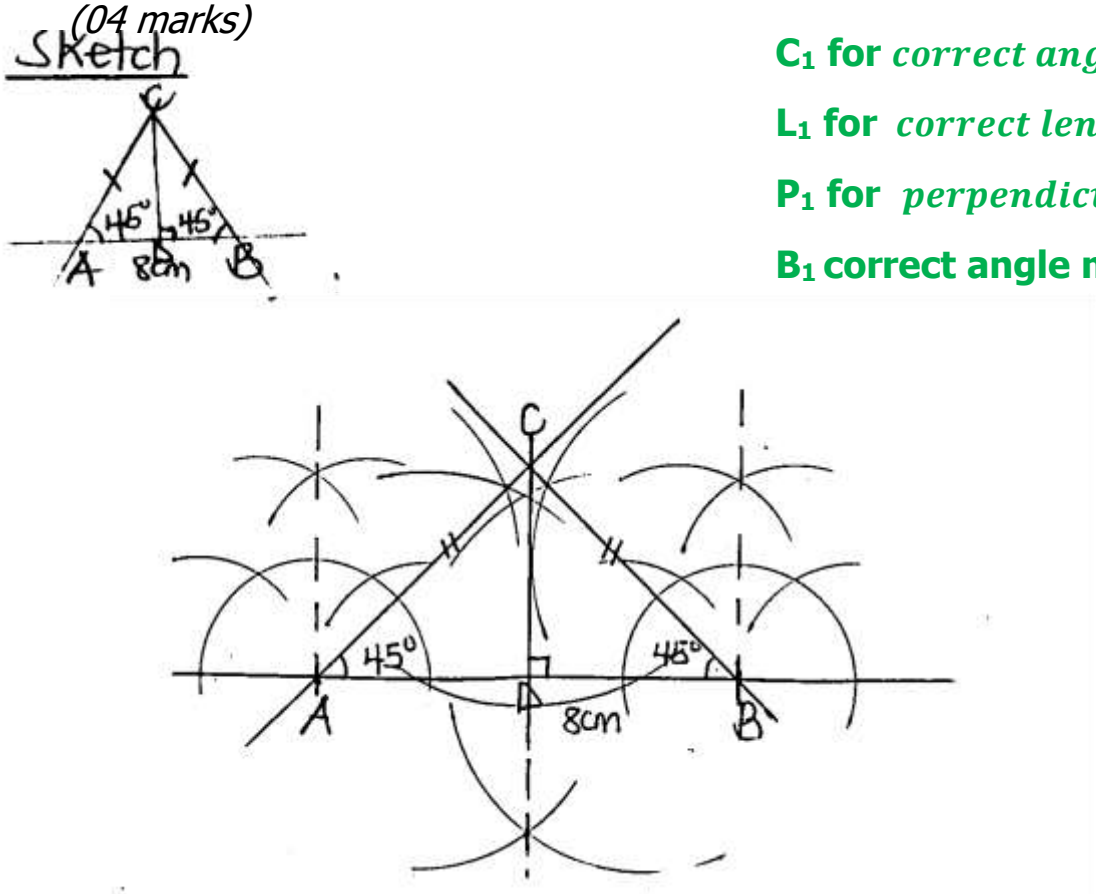
S_1 for *sketch*

C_1 for *correct angle construction*

L_1 for *correct length*

P_1 for *perpendicular*

B_1 correct angle measurement



(b) Measure angle BCD **90^0** *(01 mark)*

24. The table below shows the arrival and departure time for a bus moving betwee Mbarara and Kampala.

TOWN	ARRIVAL	DEPARTURE
Mbarara		08 45hrs
Lyantonde	09 30hrs	09 35hrs
Masaka	10 00hrs	10 14hrs
Lukaya	10 45hrs	10 55hrs
Nateete	11 40hrs	11 50hrs
Kampala	12 15hrs	

(a) How long did the bus take to travel from Lyantonde to Nateete? *(02 marks)*

M_1 for $correct\ arrangement$

A_1 correct answer

HRS	MINS
11	40
-9	35
2	05

2 hours and 30 minutes

(b) For how long did the bus stay at Lukaya? *(01 marks)*

B_1 for $correct\ answer$

HRS	MINS
10	55
-10	45
00	10

It stayed for 10 minutes

(c) If the distance between Mbarara and Kampala is 256km,

Calculate the average speed of the bus for the time it spent travelling?

(02 marks)

HRS	MINS
12	15
- 8	45
3	30

$$A.S = \frac{TDC}{TTT}$$

$$A.S = \frac{256Km}{} \div 3\frac{1}{2}hrs$$

B_1 for $\frac{1}{3}hrs$

B_1 for $correct\ answer$

$$A.S = 256kmX\frac{2}{7}hrs$$

$$\frac{512km}{7} = 73\frac{1}{7}km/h$$

25. A lorry full of sand weighs 20.7 tons. The weight of the empty lorry is 4.7 tons.

(a) Workout the weight of the sand. *(02 marks)*

$$sand\ weight = \begin{array}{r} 20.7tons \\ -4.7tons \\ \hline 16.0tons \end{array}$$

B_1 subtraction

B_1 for correct answer

(b) Calculate the weight of the lorry when full. *(03 marks)*

$(\frac{3}{4} X \frac{207}{10})$**tons**

$\left(\frac{621}{40}\right) tons$

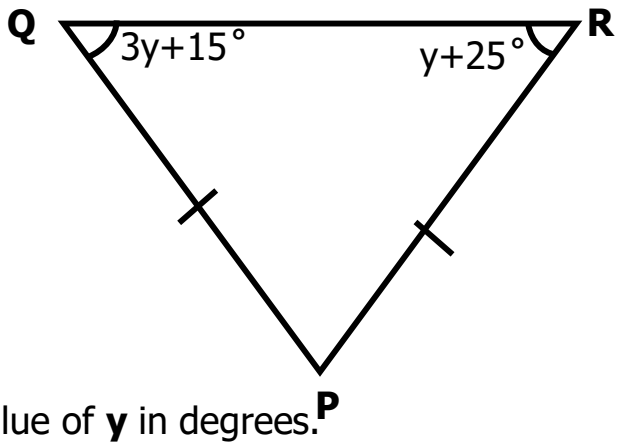
$15\frac{21}{40}$

M_1 for $multiplication$

B_1 for division

A_1 for $correct\ answer$

26. The figure below PQR is an isosceles triangle.



(a) Find the value of **y** in degrees. *(02 marks)*

$3y + 15^0 = y + 25^0$

$3y + 15^0 - 15^0 = y + 25^0$

$3y = y + 10^0$

$3y - y = y - y + 10^0$

$$\frac{2y}{2} = \frac{10}{2}$$

$y = 5^0$

M_1 for $formation\ of\ the\ equation$

A_1 for $correct\ answer$

(b) Find the size of angle **QPR** *(03 marks)*

<R

$y + 25^0$

$(5 + 25^0)$

$y = 5^0$

$<QPR = 180^0 - (30^0 + 30^0)$

$180^0 - 60^0$

120^0

B_1 for $getting\ one\ base\ angle$

B_1 for correct formation

A_1 for $correct\ answer$

27. (a) Solve for p : $\frac{1}{2}$ (4p-2)=p + 2 *(02 marks)*

$$2X\frac{(4p-2)}{2} = \frac{p+2}{1}x2$$

$$\cancel{2}X\frac{(4p-2)}{\cancel{2}} = \frac{p+2}{1}x2$$

$$4p-2 = 2(p+2)$$

$$4p-2+2 = 2p+4+2$$

$$4p = 2p+6$$

$$4p-2p = 2p-2p+6$$

$$\frac{\cancel{2}p}{\cancel{2}} = \frac{\cancel{6}^{3}}{\cancel{12}_{6}}$$

$$p = 3$$

M_1 for ***multiplication of both sides***

A_1 for ***correct answer***

(b) Musa is 20 years older than Sarah. In 8years' time,

Musa will be thrice as old as Sarah. How old is Musa now? *(03 marks)*

Let Sarah's age be r

	Sarah	Musa
Now	r	r+20
8 years	3(r+8)	r+20+8

$$3(r+8) = r+28$$

$$3r+24 = r+28$$

$$3r+24-24 = r+28\text{-}24$$

$$3r = r+4$$

$$3r-r = r-r+4$$

M_1 for ***formation of the equation***

B_1 for r=2

A_1 for $22years$

$$\frac{2r}{2} = \frac{4}{2}$$

r =2

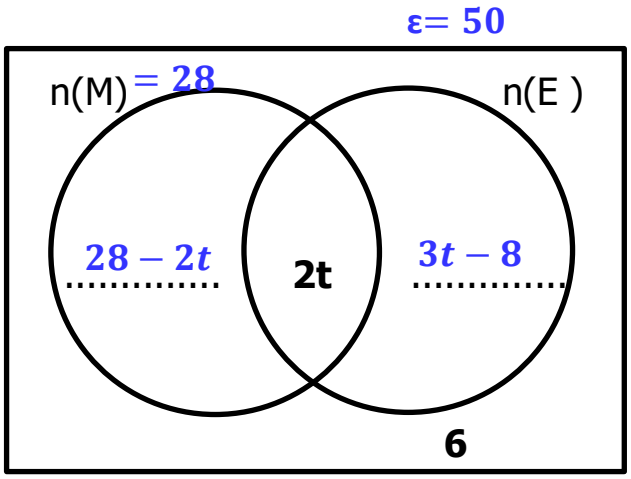
Musa now is r+29

(2+20)years

22years

28. In a class of **50** pupils, 28 like mathematics (M), **3t-8** like English (E) only, whi **2t** like both subjects.

(a) Complete the Venn diagram below *(03 marks)*



6 was missing in the question paper

(b) Find the value of **t** *(02 marks)*

$3t - 8 + 28 + 6 = 50$

$3t + 20 + 6 = 50$

$3t + 26 - 26 = 50\text{-}26$

$\frac{3t}{3} = \frac{24}{3}$

t=8

M_1 for $correct\ equation$

A_1 for $correct\ answer$

(c) How many pupils don't like English? *(01 marks)*

$28 + 6 - 2t$

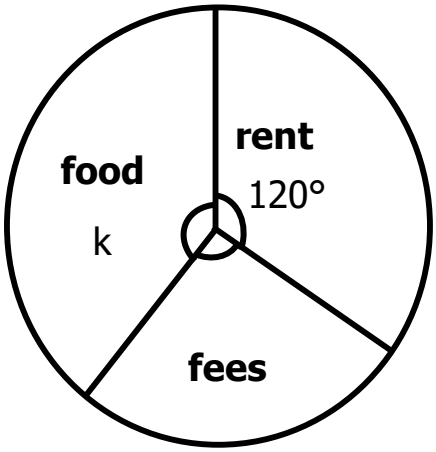
$34 - (2x8)$

$(34 - 16)pupils$

18 pupils

B_1 for 18pupils

29. The pie chart below shows how a family spends its income of **sh.432,000**. Study it carefully and answer the questions that follow



(a) If they spend sh. 108,000 on fees per month, find the value of k

(03 marks

Value of K

$\frac{sh\ 108,000}{sh\ 432,000} X\ 360^{\circ} = 4$

$\frac{1}{4} x\ 360^{0}$ (90⁰)

= 90⁰

k = 360⁰-(90⁰+120⁰)

k = 360⁰-210⁰

k= 150⁰

M₁ for $division$

B₁ for k = 360⁰-(90⁰+210⁰)

A₁ for $correct\ answer$

(b) How much less does he spend on rent than on food per month? *(02 marks*

Difference

150⁰-120⁰ = 30⁰

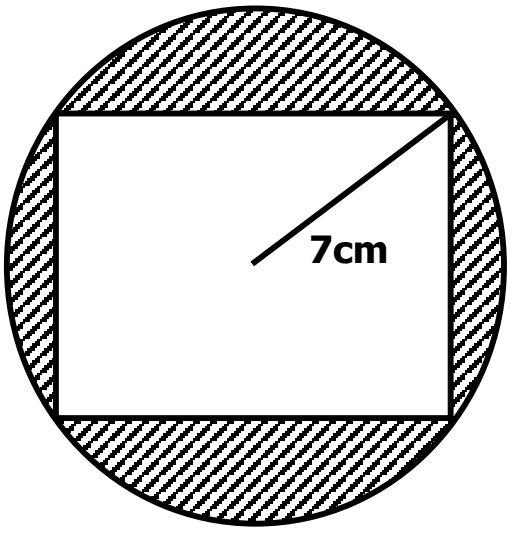
$\frac{30}{360} x\ sh\ 432,000$ (36,000; 12; 1)

sh 36,000 less

B₁ for 30°

B₁ for correct answer

30. Study the figure below and answer questions that follow



(a) Calculate the area of the outer figure. *(02 marks)*

$A = \pi r^2$

$A = \frac{22}{7} X\ 7cm$ **x 7cm**

A = 22cmx7cm

A = 154cm²

M₁ for $correct\ formation$

A₁ for $correct\ answer$

(b) Workout the area of the shaded part. *(03 marks)*

Outer area

$A = \pi r^2$

$A = \frac{22}{7} X\ 7cm$ **x 7cm**

A = 22cmx7cm

A = 154cm²

Outer of inner figure

$A = \frac{D1XD2}{2}$

A = 14cmx14cm / 2

A = 98cm²

Area of shaded part

A = 154cm-98cm

A = 56cm²

B₁ for $A = 154cm^2$

B₁ for A = 98cm²

B₁ for A = 56cm²

31. A retailer bought a tray of 30 eggs at sh. 500 each egg. During transit, **p** eggs got broken and he sold the remaining eggs each at sh. 800, making a profit of sh. 4200. Find the value of **p**.
(04 marks)

buying price

30xsh500

sh15000

number of eggs sold

$A = \frac{sh19200}{Sh800}$ 24

24 eggs sold

selling price

s.p = B.P + P

sh 15000 + 4200

sh19200

broken eggs (p)

(30-24)eggs

6 eggs got broken

B₁ for $B.P$

B₁ for S.P

B₁ for 24 eggs

B₁ for 6 eggs

32. (a) Simplify: $\frac{2}{5} \div \frac{3}{10} + \frac{1}{4} - \frac{1}{5}$ *(02 marks)*

$(\frac{2}{5} \div \frac{3}{10}) + \frac{1}{4} - \frac{1}{5} (BODMAS)$

$(\frac{2}{5} X \frac{10}{3}) + \frac{1}{4} - \frac{1}{5}$

$\frac{4}{3} + \frac{1}{4} - \frac{1}{5} = \frac{(80+15)-12}{60}$

$= \frac{95-12}{60}$

$\frac{83}{60} = 1\frac{23}{20}$

B₁ for *correct working*

A₁ for correct answer

(b) Angel spent 40% of her salary on rent and 50% of the remainder on other items She was left with sh. 300,000. How much money did she have at first?

(03 marks)

Rent

$\frac{40\%}{100} = \frac{2}{5}$

remainder

$\frac{5}{5} - \frac{2}{5}$

$= \frac{3}{5}$

Others

$\frac{1}{2} X \frac{3}{5} = \frac{3}{10}$

Fraction left

$\frac{3}{5} - \frac{3}{10} = \frac{6-3}{10}$

$\frac{3}{10}$

$\frac{3}{10} \rightarrow sh\ 300,000$

$sh\ 300,000 \div \frac{3}{10}$

$sh\ \overset{100,000}{\cancel{300,00}}\ X \frac{10}{\cancel{3}}$

$sh\ 100,00\ X10$

$sh\ 1,000,000$

B_1 for $fraction\ of\ others$

M_1 for division of $sh\ 300,000\ by\ \frac{3}{10}$

A_1 for $correct\ answer$

END