



**STANDARD HIGH SCHOOL – ZZANA
LINKED SCHOOLS EXAMINATION PROGRAMME**

**PRE-PRIMARY LEAVING EXAMINATION
MATHS
TIME: 2 HOURS 30 MINUTES**

Index No.										
-----------	--	--	--	--	--	--	--	--	--	--

Candidate's Name:

Candidate's Signature:

School Name:

District :

Read the following instructions carefully:

1. This paper has two Section A and B.
2. Answer all questions. All answers to both Sections A and B must be written in the spaces provided.
3. All answers must be written using a blue or black ball-point pen or ink. Diagrams should be drawn in pencil.
4. No calculators are allowed in the examination room.
5. Unnecessary changes of work may lead to loss of marks.
6. Any handwriting that cannot easily be read may lead to loss of marks.
7. Do not fill anything in the boxes indicated "For Examiners' Use Only" and those inside the question paper.

**FOR
EXAMINER'S
USE ONLY**

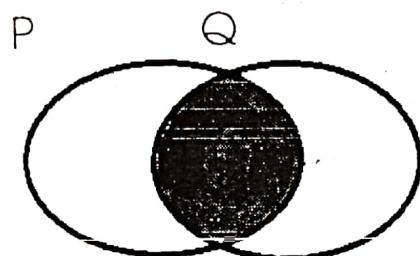
Qn. No.	Marks	Examiner's No.
1 – 5		
6 – 10		
11 – 16		
17 – 20		
21 – 22		
23 – 24		
25 – 26		
27 – 28		
29 – 30		
31 – 32		
TOTAL		

Turn Over

SECTION A

1. Workout:
$$\begin{array}{r} 86 \\ - 54 \\ \hline \end{array}$$

2. Describe the unshaded part in the Venn diagram



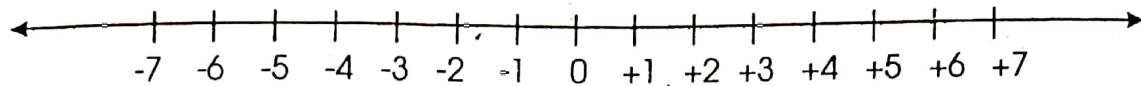
3. Write 39,062 in words.

4. Simplify $\frac{2}{3} \times \frac{3}{4}$

5. A dice is tossed once, find the probability that a square number shows up.

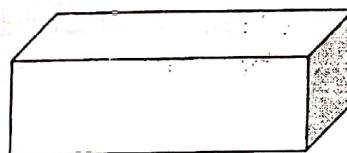
6. Express 125g as a fraction of a kilogram in its lowest terms.

7. On the number line below, show 3×2



8. Use the distributive property to work out
 $(2.5 \times 6) + (4 \times 2.5)$

9. The volume of the cuboid below is 60cm^3 find its height



10. A half dozen pens cost sh.30,000. How many pens will 1 buy with sh. 20,000?

11. Find the next number in the sequence below 0, 2, 5, 10, 17 _____

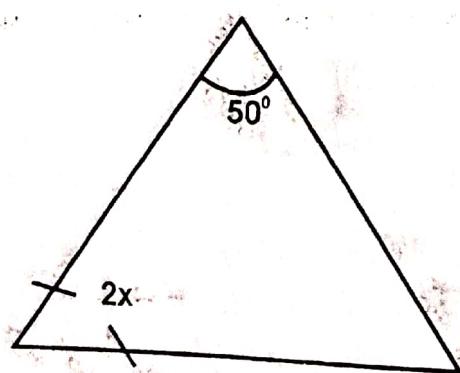
12. Solve:

$$4y + 10 = 34$$

13. Using a pair of compasses, pencil and ruler construct an angle of 150°

15. Twelve technicians can paint a school building in 10 days. How long will 15 technicians take to paint the same building, working at the same rate?

16. Find the value of x in the triangle below

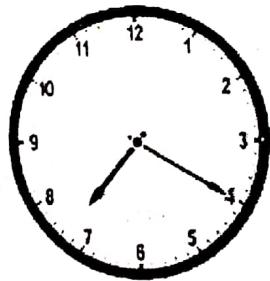


17. Mrs Shasha started her journey from Soroti at 8:30am and arrived Kampala at 3:45p.m. how long did she take travelling?

18. Express 0.84kg in grams.

19. If today is a Thursday, what day of the week was it 40 days ago?

20. What morning time is shown on the clock face below.

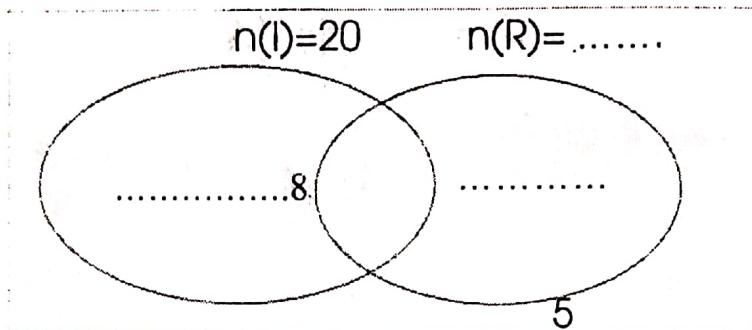


Section B.

21. Out of the 48 guests who attended Kato's birthday party, 20 ate Irish potatoes (I), 8 ate both Rice (R) and Irish potatoes, 5 ate neither of the two types of food and y ate rice only.

a) Complete the Venn diagram below

3mks



b) How many pupils ate only rice?

02mks

22. Workout:

a). $\frac{0.45 - 0.4}{0.8 + 0.2}$

3mks

b). $\frac{1}{2} \times \frac{2}{3} \div \frac{3}{4}$

2mks

23. Amos went shopping and bought the following items as shown in the table below.

a) Complete the table

1mk@

Item	Quantity	Unit Cost	Total Amount
Rice	1 $\frac{1}{2}$ kg	Sh. 3000 per kg	Sh. _____
Sugar	3kg	Sh. _____ per kg.	Sh. 11,400
Milk	_____	Sh. 600 per $\frac{1}{2}$ litre	Sh. 3600
		Total	-----

- b). If Amos was given a discount of 10%. Find the amount he paid for all the items. **2mks**

24. a) A double forty-minute lesson started 9:30am. At what time did it end? **2mks**

- b) Three bells ring at interval of 30 minute 30 minutes and 45 minutes respectively. If they ring together at 10:30am, when will they ring together again. **3mks**

25. a) Using a pair compasses, ruler and pencil, construct a triangle ABC such that, $AB = 6.5\text{cm}$, angle $\text{ABC} = 30^\circ$ and angle $\text{BAC} = 90^\circ$ **4 mks**

c) Measure BC **1 mk**

26. The table below shows marks scored by pupils in a weekly test.

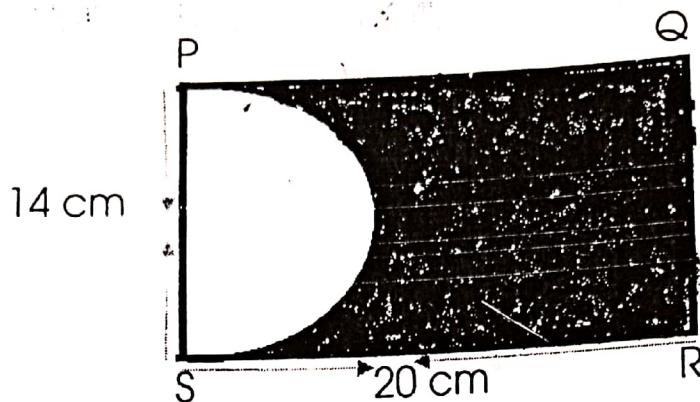
Marks	80	70	55	75
Number of pupils	3	2	1	4

a) How many pupils did the test? **1 mk**

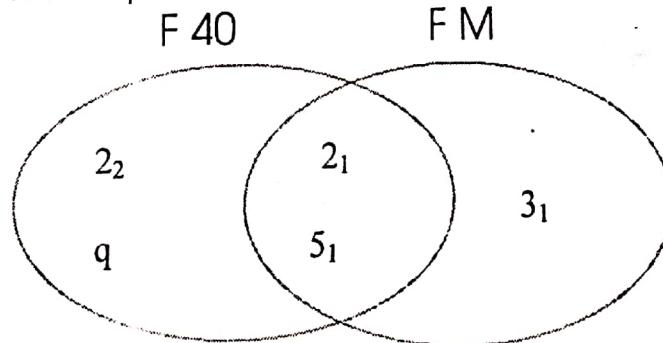
b) Find the median score. **2 mks**

c) Calculate the mean mark. **2 mks**

27. Find the area of shaded part of the figure PQRS below
 $\bullet = \frac{22}{7}$ 4 mks



28. The Venn diagram below shows the factors of 40 and M. Use it to answer questions that follow.



- a) Find the value of M 1 mks
- b) Find the value of q 2mks
- c) Find the lowest common multiple of M and 40 2mks

29. Musa took $2 \frac{1}{2}$ hrs to drive from Nakasongola to Kampala at a steady speed of 60km/hr. he returned to Nakasongola at a steady speed of 45km/hr

a) Find the distance Kampala to Nakasongola

2 mks

b) Calculate the average speed for the whole journey. 3mks

30. a) Solve: $K - \frac{1}{6}k = 5$

2 mks

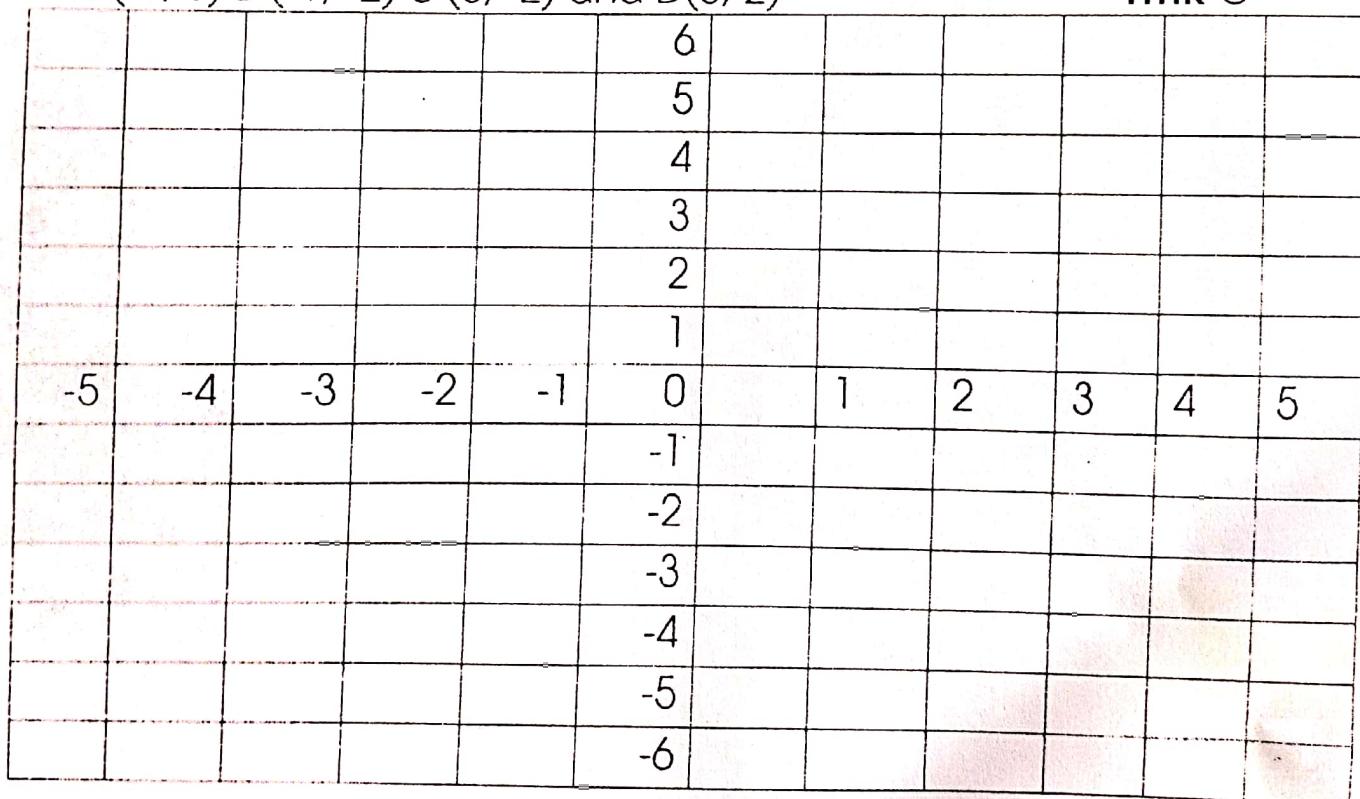
b) Solve $3(3x - 1) - 6(x - 2) = 24$.

3 mks

31. Mummy used 25% of her monthly salary on food $\frac{1}{2}$ of the remainder on medical and saved the rest.
a) What fraction of his salary did she spend on medical. **3mks**

b) If she saved sh. 36,000, find her monthly salary. **2mks**

32. Plot the following points on the grid below
A (-1, 6) B (-1, -2) c (3, -2) and D(3, 2) **1mk @**



- b) Join the points A to B, B to C, C to D and D to A. Name the figure formed. **1 mk**

MATHEMATICS - MARKING GUIDE

$$\begin{array}{r} 86 \\ - 54 \\ \hline 32 \end{array}$$

B_2



Unshaded $(P \cap Q)^c / B_2$

39.062

thous	units
39	062

Thirty nine thousand, Sixty two

Simplify: $\frac{2}{3} \times \frac{3}{4}$

$$\frac{1}{3} \times \frac{3}{4} = \frac{1}{2}$$

$$\text{OR } \frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$$

5 SS = {1, 2, 3, 4, 5, 6}

3 numbers = {1, 4} B_1

$$P = \frac{n(0)}{n(7)}$$

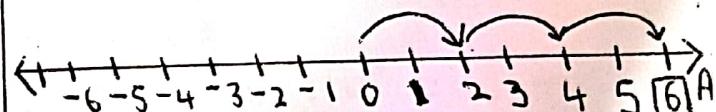
$$= \frac{2}{6} = \frac{1}{3} \quad \text{or } \frac{1}{3}$$

6. 125g as fraction of 1 Kilogram

$$\frac{125\text{g}}{1000\text{g}}$$

$$\frac{125}{1000} = \frac{25}{200} = \frac{5}{40} = \frac{1}{8} B_1$$

7. 3×2



8. $(2.5 \times 6) + (4 \times 2.5)$

$$2.5(6+4) = m$$

$$2.5(10)$$

$$\frac{2.5 \times 10}{10} = 25.0$$

$$25$$

9. $V = L \times W \times H$

$$V = L \times W \times H =$$

$$L \times W \times H = V$$

$$4\text{cm} \times 3\text{cm} \times h = 60\text{cm}^3 \text{ pr.}$$

$$\frac{12\text{cm}^2 \times h}{12\text{cm}^2} = \frac{60\text{cm}^3}{12\text{cm}^2}$$

$$h = 5\text{cm } B_1$$

6 pens cost sh. 30,000

$$1 \text{ pen cost sh. } \frac{30,000}{6}$$

1 pen cost sh 500/-

Number of pens to be bought
with sh. 20,000

$$\frac{20,000}{500} = 40$$

4 pens

$$0, 2, 5, 10, 17, 28 \text{ m}_y$$
$$+2 +3 +5 +7 +11$$

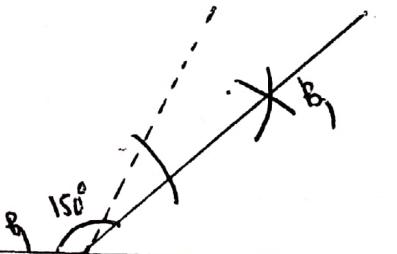
$$4y + 10 = 34$$

$$4y + 10 - 10 = 34 - 10 \text{ m}_y$$

$$4y = 24$$

$$\frac{4y}{4} = \frac{24}{4}$$

$$y = 6 \text{ m}_y$$



14 12 technician paint in 10 days

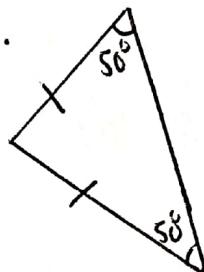
1 technician paint in 10×12

$\therefore 15 \text{ technician take } \frac{10 \times 12}{15} \text{ m}_y$

$$2 \times 4$$

$$= 8 \text{ days}$$

15.



$$2x + 50^\circ + 50^\circ = 180^\circ \text{ m}_y$$

$$2x + 100^\circ = 180^\circ$$

$$2x + 100^\circ - 100^\circ = 180^\circ - 100^\circ$$

$$2x = 80^\circ$$

$$\frac{2x}{2} = \frac{80^\circ}{2}$$

$$x = 40^\circ \text{ m}_y$$

17 ST = 8:30 a.m

ET = 3:45 p.m

$$\begin{array}{r} 8:30 \\ + 00:00 \\ \hline 08:30 \text{ hrs} \end{array}$$

E.T 3:45

$$+ 12:00$$

$$\hline 15:45 \text{ hrs}$$

Duration 15:45 m_y

$$- 08:30$$

$$\hline 7:15 \text{ m}_y$$

$$\begin{array}{r} R \ 12\text{hr} \\ 12:00 \\ - 8:30 \\ \hline 3:30 \end{array} \quad \begin{array}{r} 3:30 \\ + 3:45 \\ \hline 7:15 \end{array}$$

7 hrs 15 mins

$$1 \text{ Kg} = 1000 \text{ gms}$$

$$0.84 \text{ Kg} = \left(\frac{84}{100} \times 1000 \right) \text{ gms}$$

$$= 840 \text{ gms Ans}$$

S	M	T	W	T	F	S
0	1	2	3	4	5	6

$$\text{Today} + \text{no}\overline{0} \text{ days} \equiv (\text{mod } 7)$$

$$4 - 40 \equiv \text{mod}(7)$$

$$\frac{40}{7} = 5 \text{ R } 5$$

$$4 - 5 \equiv \text{mod}(7)$$

$$(4+7) - 5$$

$$11 - 5 \text{ R } 5$$

6

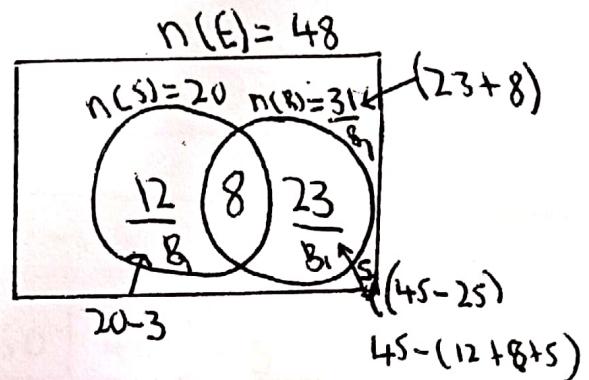
\therefore It was a Saturday Ans

7:20 am - B₁

Or Twenty Minutes Past Seven
in the Morning.

SECTION B (2)

21 (a)



(b) Rice Only

$$48 - (12 + 8 + 5)$$

$$48 - 25$$

$$23 \text{ Ans}$$

OR From Venn diagram

23 Pupils

$$22 (a) \frac{0.45 - 0.4}{0.8 + 0.2}$$

$$\begin{array}{r} 0.45 \\ - 0.40 \\ \hline 0.05 \end{array} \quad \begin{array}{r} 0.8 \\ + 0.2 \\ \hline 1.0 \end{array}$$

$$0.05 \div 1.0$$

$$\frac{5}{100} \div \frac{1}{1}$$

$$\frac{5}{100} \times \frac{1}{1} = \frac{5}{100} \text{ B}_1$$

$$= 0.05$$

-2(b)

$$\frac{1}{2} \times \frac{2}{3} \div \frac{3}{4}$$

$$\frac{1}{2} \times \frac{2}{3} \times \frac{4}{3} m$$

$$\frac{4}{9} A$$

a) Rice Sh 31500

~~2~~

$$Sh. 4500 \checkmark B_1$$

Sugar Sh 3800

$$\frac{1400}{3}$$

$$Sh. 3800 B_1$$

Milk Sh 3600

$$1200$$

$$3 \text{ litres } B_1$$

Total Sh. 4500

$$Sh. 3800$$

$$+ Sh 11400$$

$$\underline{\underline{Sh 19700 B_1}}$$

$$100\% - 10\% = 90\%$$

$$\frac{90}{100} \times 19700$$

$$90 \times 197 = Sh 17730$$

R Sh 19700 - $\left(\frac{10}{100} \times 19700\right)$

$$Sh (19700 - 1970)$$

24(a) double : 40 min x 2

= 80 minutes B

ST. 9:30 a.m

+ 1:20

10:50 a.m

(b) for LCM

2	30	40	45
2	15	20	45
2	15	10	45
3	15	5	45
3	5	5	15
<u>3</u>	5	5	5
<u>5</u>	1	1	1

$$L.C.M = 2 \times 2 \times 2 \times 3 \times 3 \times 5$$

$$= 8 \times 9 \times 5$$

$$= 72 \times 5$$

$$= 360 \text{ mins}$$

$$= \frac{360}{60} = 6 \text{ hrs}$$

10:30 am

+ 6:00

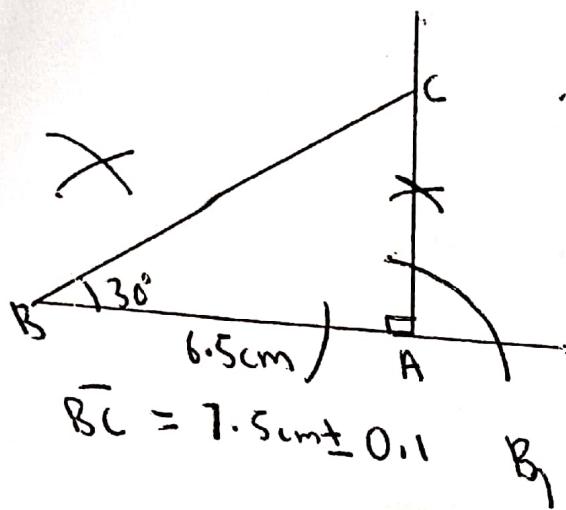
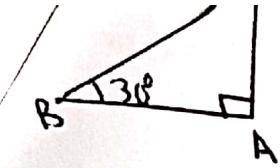
4:30 Pm B

14:00

- 12:00

4:00

(5)



(a) No of pupils

$$3+2+1+4$$

10 pupils B

(b) Median.

55, 76, 70, 75, 75, 75, 78, 80, 86, 88

$$\frac{75+75}{2}$$

$$\frac{150}{2} = 75 \text{ A}$$

(c) Mean = $\frac{\text{S.O.I}}{\text{N.O.I}}$

$$\frac{(80 \times 3) + (70 \times 2) + (55 \times 1) + (75 \times 4)}{10} \text{ m}_1$$

$$\underline{240 + 140 + 55 + 300}$$

$$\frac{735}{10} = 72.5 \text{ m}_1$$

(A).

Shaded Part = (Area of rectangle) - (Area of semi circle)

Area of rectangle = $L \times W$

$$= 20\text{cm} \times 14\text{cm}$$

$$= 280\text{cm}^2 \text{ B}_1$$

Area of semi circle: $= \frac{1}{2}\pi r^2$

$$= \frac{1}{2} \times \frac{22}{7} \times 7\text{cm} \times 7\text{cm}$$

$$= 77\text{cm}^2 \text{ B}_2$$

Shaded Part $= \frac{280\text{cm}^2 - 77\text{cm}^2}{203\text{cm}^2} \text{ A}_1$

28 (a) $F_m = \{2, 3, 5\}$

$$\begin{array}{r} 2 \times 3 \times 5 \\ 6 \times 5 \\ \hline 30 \end{array} \text{ B}_1$$

(b) Find m_2

$$\begin{array}{r|l} 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 2 & 5 \\ \hline & 1 \end{array} \text{ A}_2$$

$$F_{40} = \{2, 2_1, 2_3, 5_1\}$$

$$\therefore q = \frac{2}{3} \text{ A}_3$$

(c) L.C.M of m and 40
 $F_m \cup F_{40}$

$$\{2, 2_1, 2_3, 5_1, 3_2\}$$

$$\begin{array}{r} 2_1 \times 2 \times 2 \times 5 + 3 \\ 8 \times 15 \\ \hline 120 \end{array} \text{ A}_4$$

$$T = 2\frac{1}{2} \text{ hrs}$$

$$S = 60 \text{ km/hr}$$

$$R_s = 45 \text{ km/hr}$$

$$P_1 = \frac{60 \text{ km}}{\text{hr}} \times \frac{5 \text{ hrs}}{3} \text{ m} \\ = 150 \text{ km} \quad A_1$$

$$R_T = \frac{150 \text{ km}}{45 \text{ km}} \text{ hr} \\ = 3\frac{1}{3} \text{ hrs} \quad B_1$$

$$T.O.C = 150 \text{ km} \times 2 \\ = 300 \text{ km}$$

$$T.T.T = 2\frac{1}{2} \text{ hrs} + 3\frac{1}{2} \text{ hrs} \\ = 5\frac{5}{6} \text{ hrs} \quad B_1$$

$$\text{Avg speed} = \frac{T.O.C}{T.T.T} \\ = 300 \text{ km} \div 5\frac{5}{6} \text{ hrs} \\ = 300 \times \frac{6}{35} \text{ m} \\ = \left(300 \times \frac{6}{35} \right) \text{ km/hr} \\ = \frac{360}{7} \text{ km/hr} \\ = 51\frac{3}{7} \text{ km/hr}$$

$$30. K - \frac{1}{6}K = 5$$

$$6 \times \frac{K}{1} - \frac{1}{6}K \times 6 = \frac{5}{1} \times 6 \quad A_1 \\ 6K - K = 30 \\ 5K = 30 \\ \frac{5K}{5} = \frac{30}{5} \\ K = 6 \quad A_1$$

$$(b) 3(3x-1) - 6(x-2) = 24 \\ 9x - 3 - 6x + 12 = 24 \text{ m} \\ 9x - 6x + 12 - 3 = 24 \\ 3x + 9 - 9 = 24 - 9 \\ 3x = 15 \\ \frac{3x}{3} = \frac{15}{3} \\ x = 5 \quad A_1$$

100% - 25% =

Medical care. $\frac{1}{2}$ of rem

Saved - rest

Remainder - $100\% - 25\% = 75\%$

Medical care = $\frac{1}{2} \times \frac{3}{4}$

$$= \frac{3}{8}$$

Rm

(b) Saves

$$1 - \left(\frac{1+3}{4} \right)$$

$$1 - \left(\frac{2+3}{8} \right)$$

$$1 - \frac{5}{8}$$

$$\frac{8-5}{8} = \frac{3}{8}$$

Rm

$\frac{3}{8}$ Rept Sh. 36,000

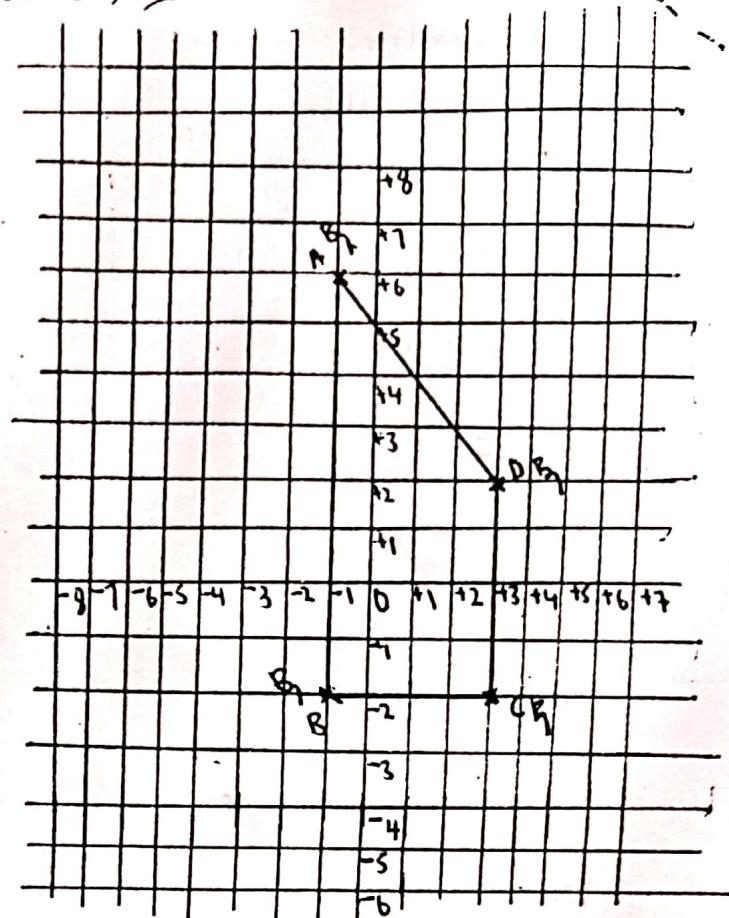
3 part gives Sh. 36,000 m

1 Part gives $\frac{36,000}{3}$

\therefore 8 Part = Sh. $12,000 \times 8$

$$= Sh. 96,000$$

32 (a)



(b) Trapezium Rm