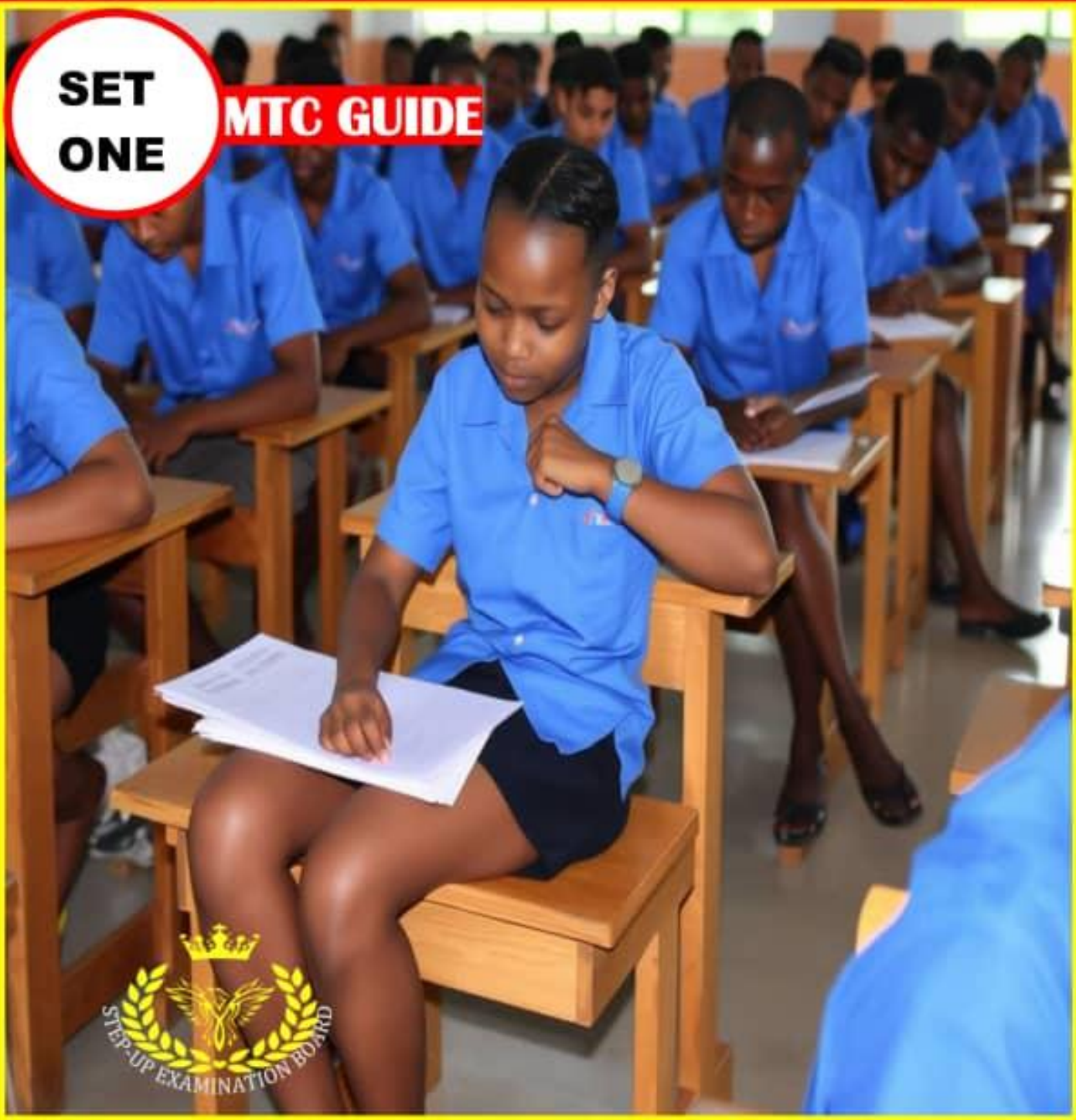
PRE PLE 2024

SET ONE

MTC GUIDE



NAME: .....

SCHOOL: .....

0782437631 0782437631

SECTION A

1. Workout: 48÷6.

$$\begin{array}{r} 08 \\ 6\overline{)48} \\ 0\downarrow \\ -48 \\ \hline 48 \\ \hline \bullet\bullet \end{array}$$

$\therefore$ 48÷6=8

6 ×
1=6
2=12
3=18
4=24
5=30
6=36
7=42
8=48
9=54

2. Change 0.8km to m.

Km	Hm	Dm	M	dm	cm	mm
1	0	0	0			

1Km =1000m

0.8Km=(0.8×1000)m

$=(\frac{8}{1\cancel{0}} \times 100\cancel{0})$m

=8×100m

=800m

3. Express 954 in roman numerals.

954=900+50+4

CM L IV

954=CMLIV

4. Workout: 9-⁻3.

9-⁻3

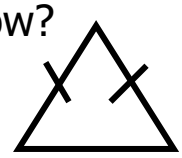
=9-(-3)

=9+3

=12

⁻×⁻=+

5. How many lines of folding symmetry has the figure below?



One line of folding symmetry.

6. Okello scored 60 marks out of 80 marks. By what percentage did he fail?

Marks failed

80-60=20

Failed percentage

$=\frac{20}{80} \times 100\%$

$=\frac{\cancel{20}^{5}}{\cancel{80}_{2}^{1}} \times \frac{\cancel{100}^{5}}{\cancel{1}_{1}}\%$

=5×5%

=25%

7. Round off 29.63 to the nearest whole number.

29.63

↓

RPV

1×1=1

29.00

+1

30.00

∴ 29.63=30

8. Odongo is thrice as old as Opolot. If their total age is 64 years, how old is Odongo?

Odongo	Opolot	Total
3y	y	64

3y+y=64

4y=64

$\frac{4y}{4}=\frac{64}{4}$

y=16

Odongo

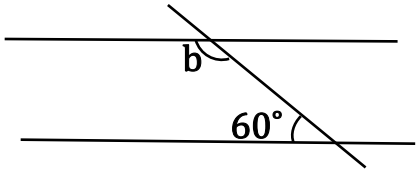
=3y

=(3×y)

=(3×16)

=48years

9. Find the value of **b** in the figure below.



60° + b = 180° (co-interior angles)

60°−60°+b=180°-60°

b=120°

10. Find the greatest common factor of 15,18 and 24.

3	15	18	24	
	5	6	8	

✓ Any other method should be accepted

∴ GCF of 15,18 and 24 is 3.

11. Kato bought 3 books at sh.2400.What is the cost of 7 similar books?

800

Sh 2400/3 = Sh 800

1 =Sh 800×7

=5600

✓ Accept any other method leading to the same answer.

12. Express $\frac{4}{5}$ as a decimal fraction.

$\frac{4}{5}=4\div5$

$5\overline{)4.0}$ → 0.8

−0 ↓

40

−40

••

13. A bus travelled at an average speed of 60km/hr for 120 km. Calculate the time taken in minutes.

S=60km/hr

D=120km

T=D÷S

T=120km÷60km/hr

$T=120km\div\frac{60km}{1hr}$

$T=\cancel{120}^{2}km\times\frac{1hr}{\cancel{60}km}$

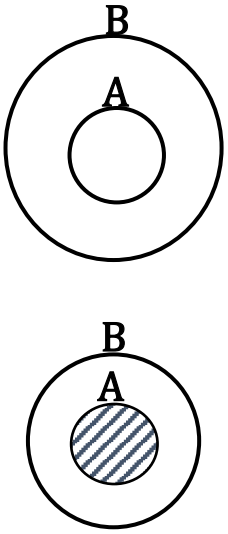
$T=2hours.$

1hour=60minutes

2hours=(2×60)minutes

=120minutes

14.In the Venn diagram below, shade (AnB)=A



15. Ahebwa borrowed sh.900,000 from a bank that offers an interest rate of 5% per annum for 18 months. Find the simple Interest after 18 months.

P=Sh. 900,000

R=5%per annum

T=18months

12montha=1year

$18months=\frac{18}{12}years$

$=\frac{\cancel{18}^{3}}{\cancel{12}_{2}}years$

$=\frac{3}{2}years$

$=1\frac{1}{2}years$

SI=P×R×T

$SI=Sh.\ 900,000\times5\%\times1\frac{1}{2}$

$SI=Sh.\ \cancel{900,000}^{45}\times\frac{5}{\cancel{100}}\times\frac{3}{\cancel{2}_{1}}$

SI=Sh. 4500×5×3

SI=Sh. 67,500

16. A pupil rolled a dice once. What is the probability that a five appears on top?

1, 2, 3, 4, ⑤, 6

n(EC)=1

n(TC)=6

$Probability=\frac{n(EC)}{n(TC)}$

$=\frac{1}{6}$

17. A mathematics ended at 12:30 pm. If the lesson lasted for 55 minutes, at what time did it start?

$ST = ET - D$

Hrs	Min
12^{1}	$(30)+60$
$-$	55
11	35

$8\ 1$
$\not{9}\ 0$
$-\ 5\ 5$
35

∴ It started at 11:30am

18. Find the 5th triangular number.

$$= \frac{n(n+1)}{2}$$

$$= \frac{5(5+1)}{2}$$

$$= \frac{5 \times \cancel{6}^{3}}{\cancel{2}_{1}}$$

$$= 15$$

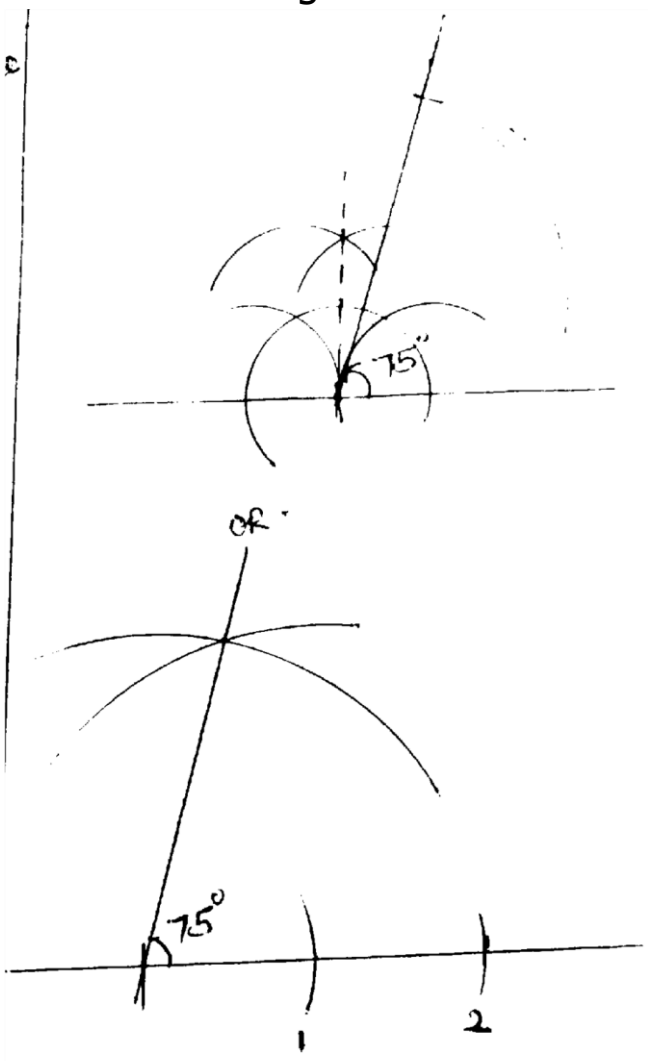
∴ The fifth triangle number is 15

19. Expand 4507 using exponents.

10^3	10^2	10^1	10^0
4	5	0	7

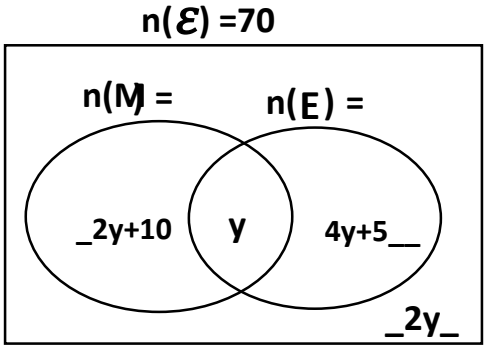
$(4 \times 10^3)+(5 \times 10^2)+(0 \times 10^1)+(7 \times 10^0)$

20. Using a ruler, sharp pencil and a pair of compasses only construct an angle of 75^0.



SECTION B :60 MARKS

21. The Venn diagram bellow represents the number of pupils who like mathematics {M} and English {E}. Use it to answer the questions that follow



a). Find the value of y. (3 mks)

$2y+10+3y+4y+5+2y=70$

$2y+3y+4y+2y+10+5=70$

$11y + 15 = 70$

$11y+15-15 = 70-15$

$11y = 55$

$\frac{11y}{11} = \frac{55}{11}$

$y = 5$

b). How many pupils do not like English? (1 mk)

$=2y+10+2y$

$=(2y+2y)+10$

$=4y+10$

$=(4\times y)+10$

$=(4\times 5)+10$

$=20+10$

$=30$ pupils

c). If a pupil is picked at random, what is the probability that a pupil likes at least one subject? (2mks)

$n(EC)=(2u+10)+(4y+5)$

$=2y+10+4y+5$

$=2y+4y+10+5$

$=6y+15$

$=(6\times 5)+15$

$=30+15$

$=45$

$n(TC)=70$

$\text{Probability}=\frac{n(EC)}{n(TC)}$

$=\frac{45}{70}$

22. a) Solve for x.

$4(x-2)-2(x-6)=12$. (3mks)

$4(x-2)-2(x-6)=12$

$4x-2x+12-8=12$

$2x+4=12$

$2x+4-4=12-4$

$\frac{2x}{2}=\frac{8}{2}$

$x=4$

b. Solve the inequality below.

$2m-1<11$. (2mks)

$2m-1<11$

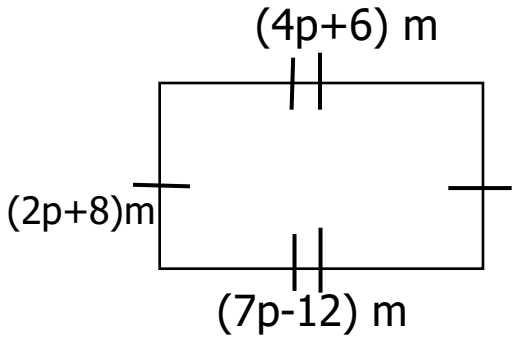
$2m-1+1<11+1$

$2m<12$

$\frac{2m}{2}<\frac{12}{2}$

$m<6$

23. The figure below represents a regular piece of land study it carefully and answer questions that follow.



a). Find the value of p. (2marks)

$(7p-12)m=(4p+6)m$

$\frac{(7p-12)m}{m}=\frac{(4p+6)m}{m}$

$7p-12=4p+6$

$7p-4p-12=4p-4p+6$

$3p-12=6$

$3p-12+12=6+12$

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

$p=6$

b). Workout the area of the piece of land. (2marks)

length	Width
$(7p-12)m$	$(2p+8)m$
$(7\times6)-12)m$	$(2\times6)+8)m$
$(42-12)m$	$(12+8)m$
$=\underline{30cm}$	$=\underline{20m}$

$A=L\times W$

$=30m\times20m$

$=600m^2$

c). A goat moved round the piece of land thrice, what distance did it cover? (2marks)

$P=2(L+W)$

$=2(30m+20m)$

$=2\times50m$

$=100m$

$Distance=3\times100m$

$=\underline{300m}$

24. Mary, Mercy and Madrine shared a certain amount of money in the ratio 3:4:5 respectively, if mercy got sh. 200000.

a). Find the amount of money they shared altogether? (2marks)

Mary	Mercy	Madrine	Total
3p	4p	5p	12p
	Sh.200,000		

$4p = Sh.\ 200,000$

$\frac{4p}{4_1} = \frac{Sh.\ 200,000}{4_1}$

$P = Sh.\ 50,000$

Total

$= 12p$

$= 12 \times p$

$= 12 \times Sh.\ 50,000$

$= Sh.\ 600000$

b). Express Mary's share as a percentage. (2marks)

Mary	Mercy	Madrine	Total
3	4	5	12

Mary

$\frac{3}{12} \times 100\% = \frac{3 \times 100^{25}}{12_1}\ \%$

$= 25\%$

25. The sum of four consecutive odd numbers is 88

a). Find the numbers.

1st No	2nd no	3rd No	4th No	Total
y	y+2	y+4	y+6	88

$y+y+2+y+4+y+6=88$

$y+y+y+y+2+4+6=88$

$4y + 12 = 88$

$4y+12-12 = 88-12$

$4y = 76$

$\frac{4y}{4_1} = \frac{76^{19}}{4_1}$

$y = 19$

y, (y+2), (y+4), (y+6),

19, (19+2), (19+4), (19+6)

19, 21, 23, 25

b). Workout the median of the number

19, 21, 23, 25

$\frac{21 + 23}{2} = \frac{44^{22}}{2_1}$

$= 22$

26. The table below represents the shopping bill of Mrs. Gere, study it and use it to answer questions that follow.

ITEM	QUANTITY	UNIT COST	AMOUNT
Meat	$2^{1}/_{2}$ kg	Sh.12,000@kg	Sh. .....
Rice	$3^{1}/_{4}$kg	Sh. .....@kg	Sh.13,000
Cooking oil	.....litres	Sh.8000@	Sh.6000
Maize flour	1500g	Sh.2000@kg	Sh. .....
Total expenditure.			Sh. .....

a) complete the table above. (5marks)

Meat

Sh. 12000×2½

$= \text{Sh. } \overset{6}{\cancel{12}}000 \times \frac{5}{\cancel{2}_{1}}$

= Sh. 30000

Maize flour

Sh. 2000×1500

1000

Sh. 3000

Cooking oil

$\left(\frac{\text{Sh. } \overset{3}{\cancel{6}}000}{\text{Sh. } 5000}\right)_{4}$

$= \frac{3}{4}$litres.

Rice

Sh. 13,000÷3¼

Sh. 13,000÷ $\frac{13}{4}$

Sh. $\overset{1}{\cancel{13}}$,000 × $\frac{4}{\cancel{13}_{1}}$

Sh. 4,000

Total

Sh. 30,000
Sh. 13,000
+ Sh. 6,000
Sh. 3,000
Sh. 52,000

b) If she had sh. 70,000, how much money did she remain with. (1mark).

$\overset{6}{}$
Sh. 70,000
− Sh. 52,000
Sh. 18,000

27. A motorist left town **A** at an average speed of 80km/hr for $2^{1}/_{2}$ hours to town **B**.

a) Find the total distance he covered from town **A** to town **B.** (2mks)

$D = 80\text{km/hr} \times 2\frac{1}{2}\text{hours}$

$= \frac{80\text{km}}{1\text{hr}} \times \frac{5\text{hr}}{2}$

$= (40 \times 5)\text{km}$

$= 200\text{km}$

b). If he returned from town **A** to town **B** at an average speed of 50km/hr. How long did he take on his journey? (2mks)

Return journey

$S = 50\text{km/hr}$

$D = 200\text{km}$

$T = ?$

$T = D \div S$

$= 200\text{km} \div 50\text{km/hr}$

$= 200\text{km} \div \frac{50\text{km}}{1\text{hr}}$

$= 200\text{km} \times \frac{1\text{ hr}}{50\text{km}}$

$= 4\text{ hours}$

28. The interior angle of a regular polygon is 100^0 more than its exterior angle.

a) Find the exterior angle. (2mks)

Int.<	Ext.<	Sum
100°+K	K	180°

$100° + K + K = 180°$

$100° + 2K = 180°$

$100° - 100° + 2K = 180°$

$2K = 180° - 100°$

$\frac{2K}{2} = \frac{80°}{2}$

$K = 40°$

b). Calculate the its interior angle sum. (3mks)

No. of sides $= \frac{360°}{\text{Ext.<}}$

$= \frac{360°}{40°}$

$= 9\text{sides}$

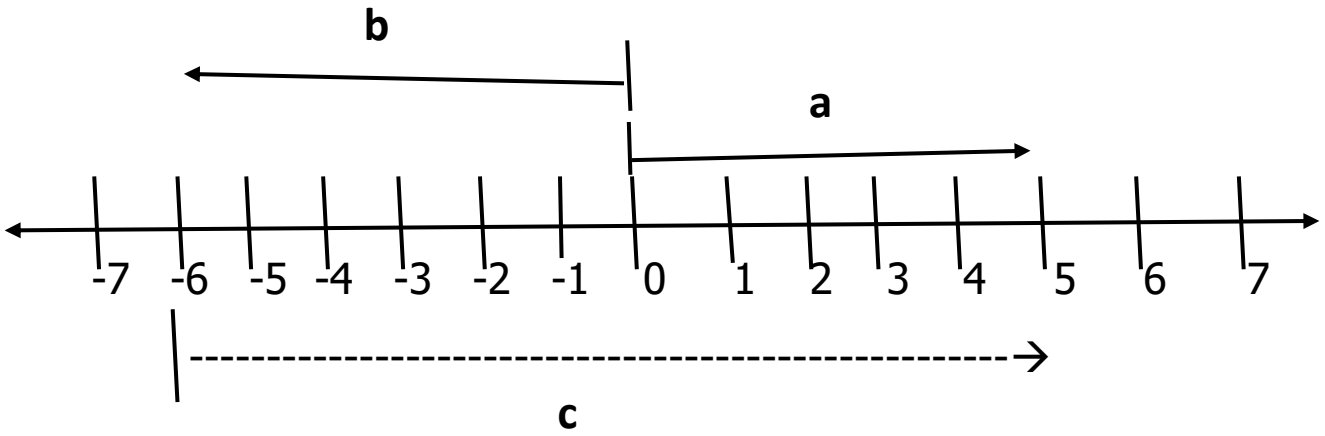
Int.< sum $= 180°(n-2)$

$= 180°(9-2)$

$= 180° \times 7$

$= 1260°$

29. Use the number line below to answer the questions that follow.



a) Write the integers represented by the arrows on the number line above.(3mks)

a) $+5$

b) -6

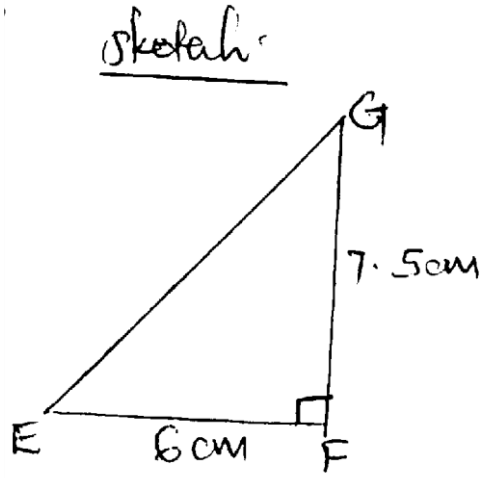
c) $+11$

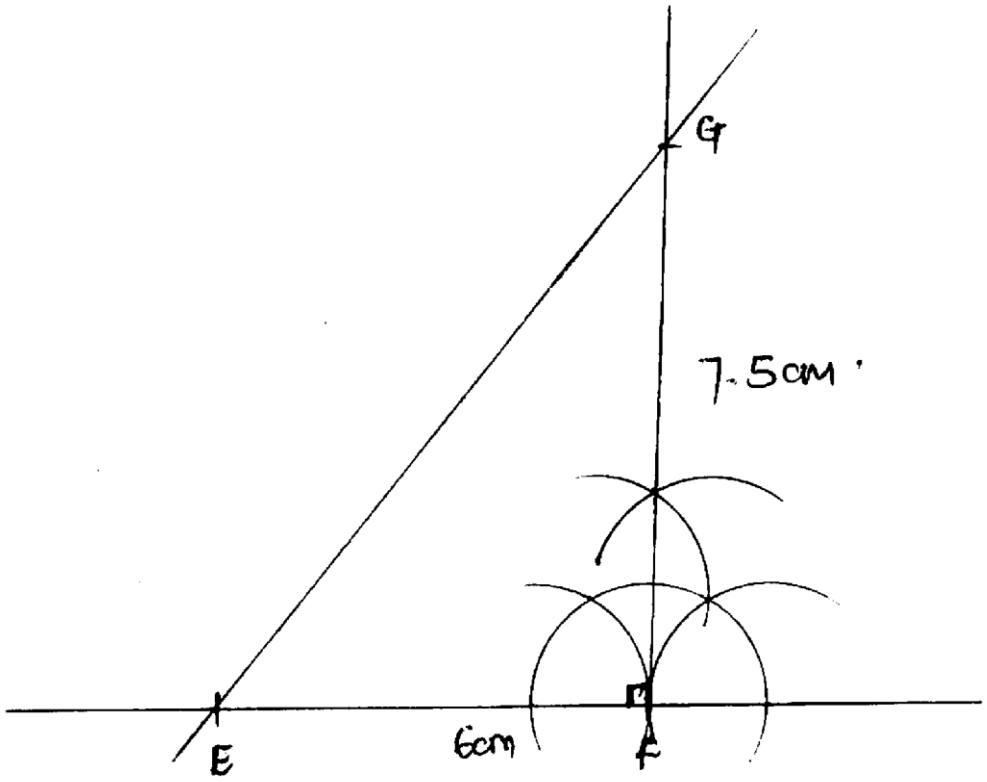
b) write the mathematical statement shown on the number line above. (1mk)

$a - b = c$

$+5 - -6 = +11$

30. Using a ruler, a sharp pencil and a pair of compasses only, construct a triangle **EFG** where **EFG=90^0,** line **FG=7.5** cm and **EF=6** cm. (4mks)





b) Measure line **EG**. (1mk)

EG: 9.8cm

31 a) Write 43056 in standard form. (2mks)

TTH	T	H	T	0
4	3	0	5	6

$4.3056 \times 10^{?}$

4.3056×10^{4}

b). Given that $203y = 125_{six}$, Solve for y. (3mks)

$y^2 \ y^1 \ y^0 \quad 6^2 \ 6^1 \ 6^0$

$2 \ 0 \ 3y = 1 \ 2 \ 5six$

$(2 \times y^2) + (0 \times y^1) + (3 \times y^0) = (1 \times 6^2) + (2 \times 6^1) + (5 \times 6^0)$

$2y^2 + (3 \times 1) = (1 \times 6 \times 6) + (2 \times 6) + (5 \times 1)$

$2y^2 + 3 = 36 + 12 + 5$

$2y^2 + 3\text{-}3 = 53\text{-}3$

$\frac{2y^2}{2} = \frac{50}{2}$

$y^2 = 25$

$\sqrt{y2} = \sqrt{25}$

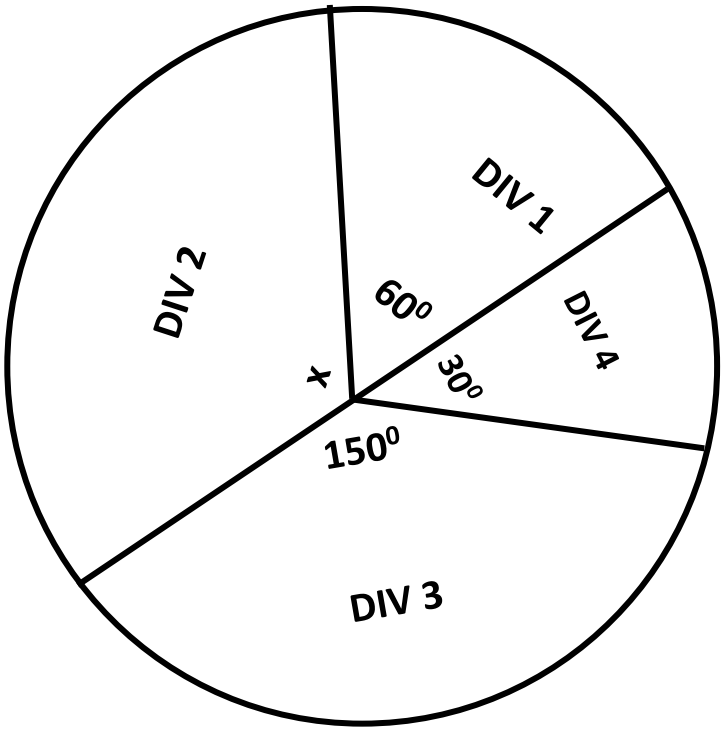
$\sqrt{y \times y} = \sqrt{5 \times 5}$

$y = 5$

5	25	
5	5	
	1	

y is base five.

32. The pie chart below shows the performance of P7 candidates of St. Pius primary school in PLE 2023



a) Find the value of x (2mks)

$x + 60^\circ + 30^\circ + 150^\circ = 360^\circ$

$x + 240^\circ = 360^\circ$

$x + 240^\circ - 240^\circ = 360^\circ - 240^\circ$

$x = 120^\circ$

b) If 72 candidates passed in division 2, find the total number of candidates in P.7 that year? (3mks)

Let the total number be y

$\frac{120}{360} \times y = 72$

$\frac{\cancel{120}^{1}}{\cancel{360}_{3}} \times y = 72$

$\frac{1}{3} \times y = 72$

$\cancel{3}^{1} \times \frac{1}{\cancel{3}_{1}} \times y = 72 \times 3$

$y = 216$

∴ There were 216 candidates.