

## PRE- PLE SET FOUR (SECTION A: 40 MARKS)

### Operations on Whole numbers (P.4)

1A. Add: 215 + 42

1B. Add: 324 + 119

### Whole numbers (P.5)

2A. Write 194 in Roman numerals.

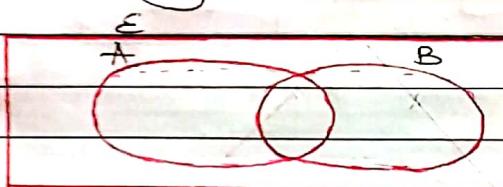
2B. Write 96 in Roman numerals

### Set concepts (P.5)

3A. Given that set A = {s, u, n, d, a, g, y} and

set B = {m, o, n, d, a, g},

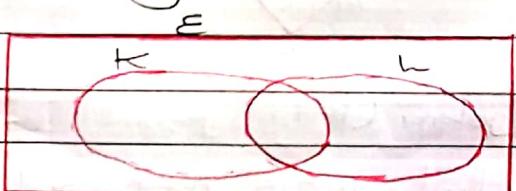
Represent the elements of set A and set B  
on the Venn diagram below.



3B. Given that set K = {x, y, w, n} and set L

= {m, x, i, z},

Represent the elements of set K and set L  
on the Venn diagram below.



### Number Patterns and Sequences (P.5)

4A. Find the Greatest Common Factor (GCF)  
(GCF) of 24 and 36.

4B. Find the Greatest Common Factor (GCF)  
of 18 and 24.

## Fractions (P.6)

5A. Workout:  $\frac{2}{3} \div \frac{1}{3}$

5B. Workout:  $\frac{1}{2} \div \frac{1}{4}$

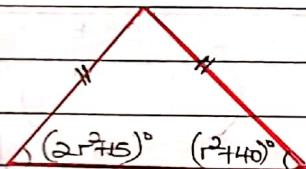
## Time (P.7)

6A. A Science test that started at 11:15am ended at 1:30p.m. For how long did the test last?

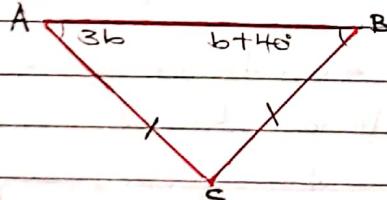
6B. A Mathematics test that ended at 1:30 p.m had lasted for  $2\frac{1}{2}$  hours. At what time did the test start?

## Angles, Lines and Geometric Figures (P.7)

7A. Find the value of  $r$  in the figure below.



7B. Find the value of  $b$  in degrees in the diagram below.



## Algebra (P.7)

8A. Given that  $m = 5$ ,  $n = 3$  and  $r = -2$ , find the value of  $\frac{mn}{n-r}$

8B. Given that  $k = 3$ ,  $r = 2$  and  $t = +5$ , find the value of  $\frac{k(r-t)}{2t}$

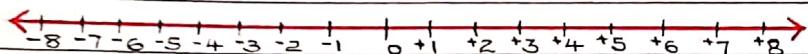
### Length, Mass and capacity (P.5)

9A Convert  $2500 \text{ cm}^2$  to  $\text{m}^2$

9B Convert 36,000 Square centimetres to Square metres.

### Integers (P.7)

10A. Work out  $-7 - 3$  using the number line below.



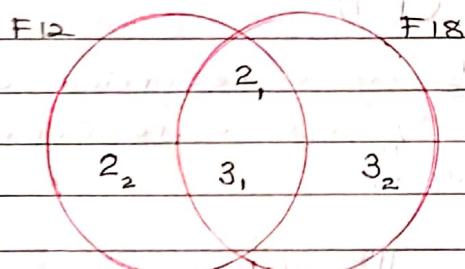
10B Work out  $+4 + -5$  on the numberline below.



### Number patterns and Sequences (P.5)

11A. The venn diagram below shows the prime factors of 12 and 18.

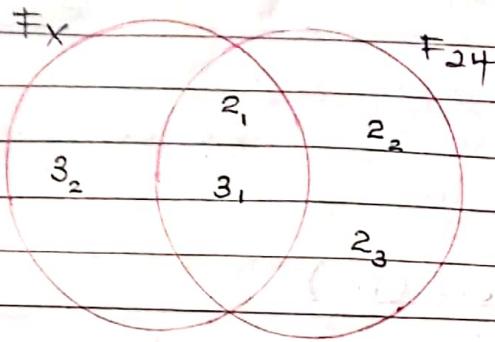
Use it to answer questions that follows.



Find the Lowest Common Multiple of 12 and 18.

11B The venn diagram below shows the prime factors of X and 24.

Use it to answer questions that follows



Find the value of  $x$ .

### Distance, Speed and Time (P.7)

- 12A. A bus covered a distance of 105 km moving at an average speed of 140 km/h. How long did the bus take to cover the journey.

- 12B. An athlete riding at an average speed of 40 kilometres per hour covered a distance of 80 kilometres. How long was his journey?

### Fractions (P.7)

- 13A Express  $\frac{4}{15}$  as a recurring decimal.

- 13B Express  $\frac{9}{11}$  as a recurring decimal number.

### Data Handling (P.7)

- 14A. Find the range of the following -  
-3, 3, 4, -5, 1

- 14B. Find the range of the following integers  
+2, -2, 4, -1

### Operations on Whole numbers (P.7)

15A. Write 0.00421 in scientific notation.

15B. Find the number whose scientific notation is  $2.3 \times 10^{-2}$ .

### Algebra (P.7)

16A. Solve the equation:  $\frac{3}{5}n + 6 = 2n$ .

16B. Solve the equation:  $\frac{1}{2}m + 7 = 2m - 2$

### Length, Mass and Capacity (P.7)

17A. How many small containers of 500 milliliters of cooking oil can fill a container of 12 litres?

17B. How many packets of 0.5 kg can be obtained from a bag of sugar of 50kg.

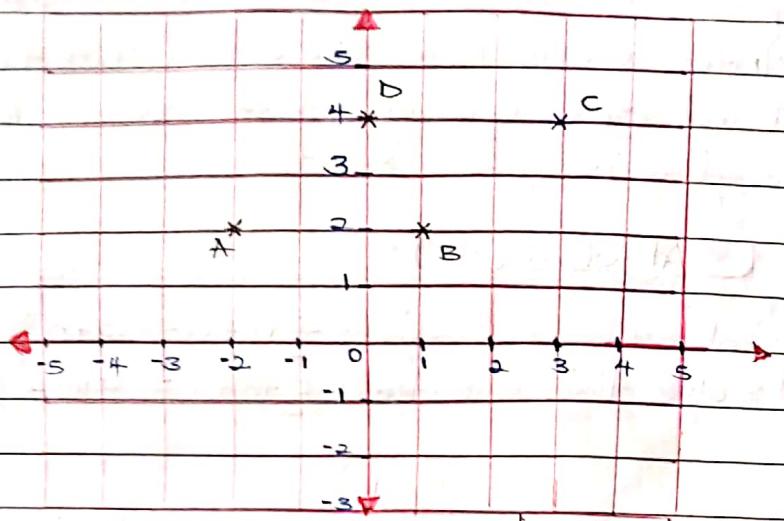
### Money (P.7)

18 A. Given that 1 US dollar \$ costs Uganda shillings (Ugsh) 3,672 and 1 Kenya shillings (Ksh) costs Ugsh 36, find the cost of 1 US dollar in Kenya shillings.

18 B. The cost of buying 200 Kenya shillings (Ksh) is 6,400 Uganda shillings. How much in Kenya shillings will 48,000 Uganda shillings buy?

### Data Handling (P.7)

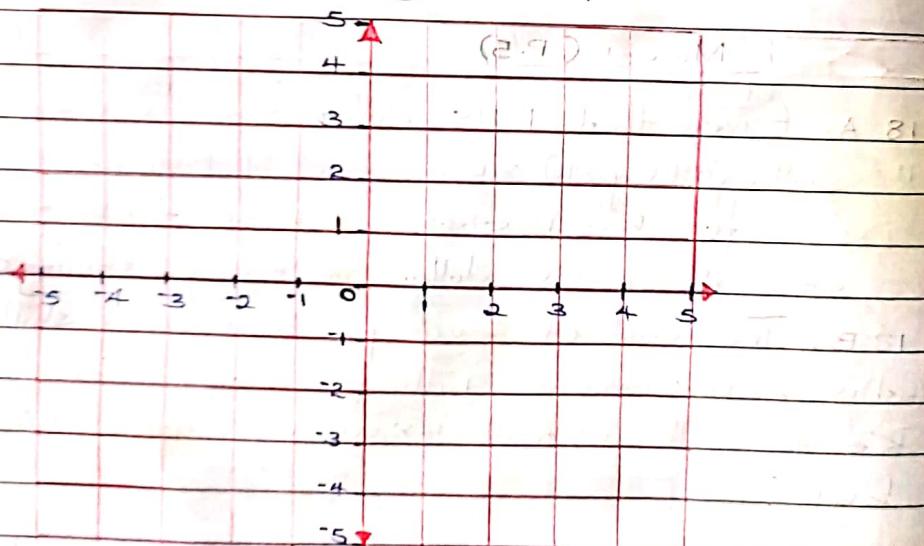
19A. In the graph below, join point A to B, B to C, C to D and D to A.



Name the figure formed.

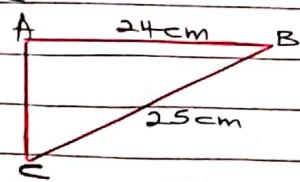
19.5

Plot the points  $B(-2, +1)$  and  $C(+3, -3)$  on the coordinate graph below.

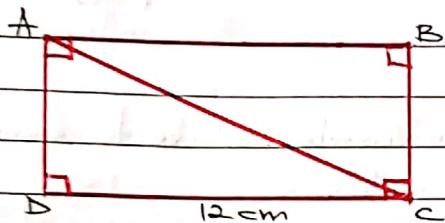


### Angles, Lines and Geometric figures(P7)

20A. The figure below ABC is a triangle whose base is 24 cm. Study it and find the length AC.



20B. The area of the rectangle ABCD below is  $60\text{cm}^2$ , length  $DC = 12\text{cm}$ . Find the length of its diagonal AC.

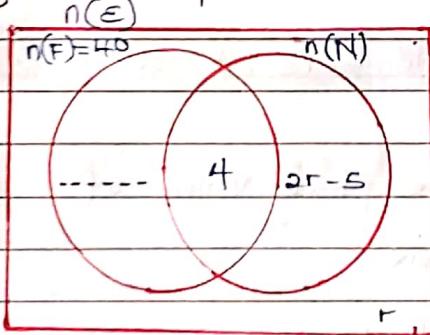


Section B: (60 Marks)  
Set concepts (P.7)

21A.

The Venn diagram below shows the number of players in a school team who participated in football (F), netball (N) and other games

(a) Study and complete the Venn diagram below.



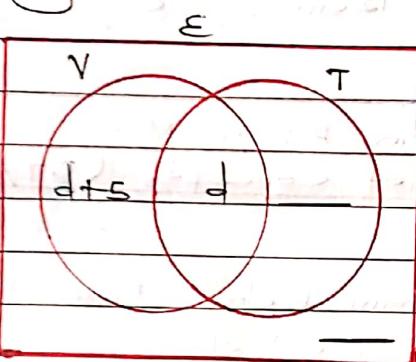
(b) If 37 players did not participate in football, find the value of r.

(c) If a player is selected at random to be a team captain, what is the probability that the one selected participated in netball?

21.B

In a class, 31 pupils play tennis (T) and (dts) play Volley ball (V) only. d pupils play both games while 3 play neither of the games.

(a) Use the given information above to complete the venn diagram below.



(b) If 27 pupils play Volleyball altogether, find the value of d.

### Whole Numbers : Base 5's and P-7

22.A

(a) Write the place value of 3 and 4 in 314.  
six

(b) Work out:  $34_{\text{five}} \times 31_{\text{five}}$

22.B.

(a) Given that  $123_{\text{five}} + d = 1012_{\text{five}}$ , find the value of d.

(b) Convert  $134_{\text{eight}}$  into binary system.

### Fractions (P.7)

23A.

(a) Work out:  $2\frac{3}{4} + 1\frac{2}{3}$ .

(b) Simplify:  $\frac{4}{5} \times \frac{3}{7} \div \frac{27}{15}$ .

23B.

(a) Work out:  $1\frac{1}{2} - \frac{2}{3}$

(b) Simplify:  $3\frac{1}{3} \div 2\frac{1}{2} \times 2\frac{2}{5}$ .

### Lines, Angles and Geometric figures

24A.

Using a ruler and a pair of compasses only,

(a) Construct triangle ABC where AB = 7.5 cm, angle CAB = 45° and angle ABC = 60°.

(b) Measure the length BC cm.

24B

Using a ruler, a pencil and a pair of compasses only,

(a) Construct a triangle KLM where KL = 6.5 cm, angle MKL = 60° and angle KLM = 75°.

(b) Measure the length KM cm.

### Money: Shopping tables

25A.

Keith bought the items in the table below from Kawempe Market.

Item	Quantity	Unit Cost	Amount
Rice	2 kg	sh. 3500 per kg	sh. _____
Sugar	3½ kg	sh. _____ per kg	sh. 10,500
Soap	_____ bars	sh. 4000 per bar	sh. _____
Meat	1500 g	sh. 8000 per kg	sh. _____
			sh. 41,500

## Distance, Speed and Time (P.7)

26A.

Abus left Kampala for Masindi travelling at a speed of 60km/h. After  $\frac{2}{3}$  hour drive, it changed its speed to 42km/h and reached Masindi after 2 hours.

- How far is Kampala from Masindi?
- Calculate the average speed of the bus for the whole journey.

26B. Tabira left Kinyanya town at 4:45 p.m. He drove his car at a steady speed of 80km/h for  $1\frac{1}{2}$  hours from Kinyanya town to his home.

- At what time did he reach home?
- If the cost of petrol was Sh.7000 per litre and he used one litre to cover 3km. Find the cost of petrol for the whole journey.

## Fractions: Applications (P.7)

27A.

In a school, the fraction of boys is  $\frac{1}{5}$  more than that of girls. The school has 280 girls.

- Find the fraction of girls in the school.
- Calculate the total number of pupils in the school.

27 B.

On a farm, the fraction of goats is  $\frac{1}{7}$  more than that of the sheep. If there are 36 sheep on the farm;

(a) Find the fraction of the sheep on the farm.

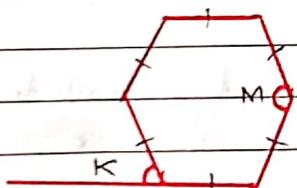
(b) Work out the total number of animals on the farm.

### Lines, Angles and Geometric figures

28 A.

The figure below is a regular polygon with angles marked m and k.

Study and use it to answer questions that follow.



(a) Find the value of angle marked k in degrees.

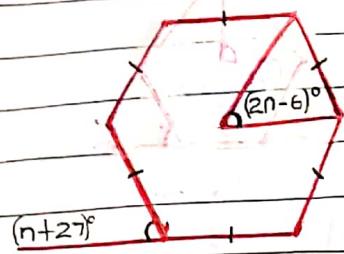
(b) Find the value of angle marked m in degrees.

(c) How many right angles can be formed in the regular polygon above?

28 B.

The figure below is a regular polygon with angles marked  $(n+27)^\circ$  and  $(2n-6)^\circ$ .

Study and use it to answer questions that follow.



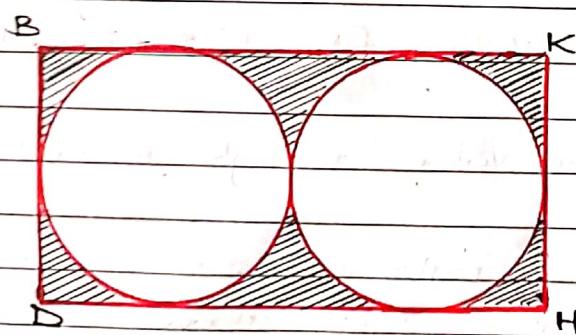
- (a) Name the regular polygon.  
 (b) Find the value of  $n$  in degrees  
 (c) Find the number of right angles  
 than can be formed from the polygon  
 above.

### Length, Mass and capacity (P.7)

29 A

The figure below shows two equal circles in a rectangle BDHK. The total area of the two circles is  $308 \text{ cm}^2$ .

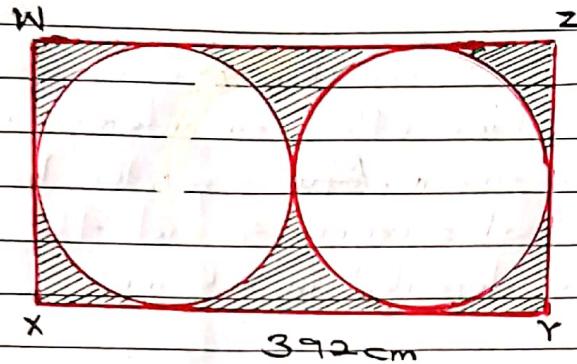
Study it carefully and calculate the area of the shaded part. (Use  $\pi = \frac{22}{7}$ ).



29 B

The figure below shows two equal circles in a rectangle WXYZ. The area of a rectangle is  $392 \text{ cm}^2$ .

Study it carefully and calculate the area of the shaded part (use  $\pi = \frac{22}{7}$ ).



### Algebra (P.7)

30A. A book costs sh. K, a pen costs  $\frac{1}{4}$  of the cost of a book and a ruler costs twice the cost of a pen.

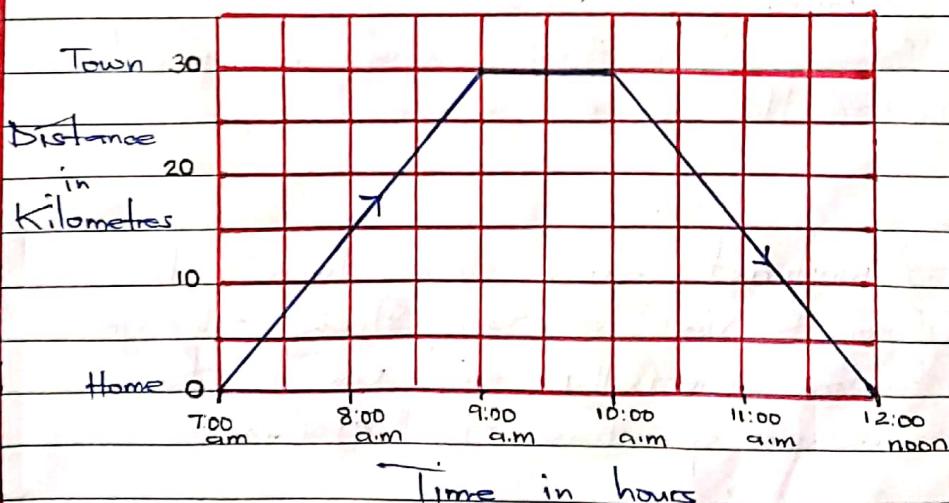
Dipo paid sh. 1,050 for the three items. Find the cost of each of the three items.

32A

### Data Handling (P.7)

The graph below shows Peters journey from his home to town and back home.

Study and use it to answer questions that follow.



## Fractions: Simple Interest (P.7)

31A.

A man deposited a certain sum of money in a bank which offers an interest rate of 20% per annum. After 11 months his account had sh. 2,130,000. Find the sum of money he deposited in a bank.

31B.

Kasumba deposited money in a bank which offers a simple interest rate of  $2\frac{1}{2}\%$  per year.

After 9 months his account had an amount sh 163,000.

Calculate the money Kasumba deposited in the bank.

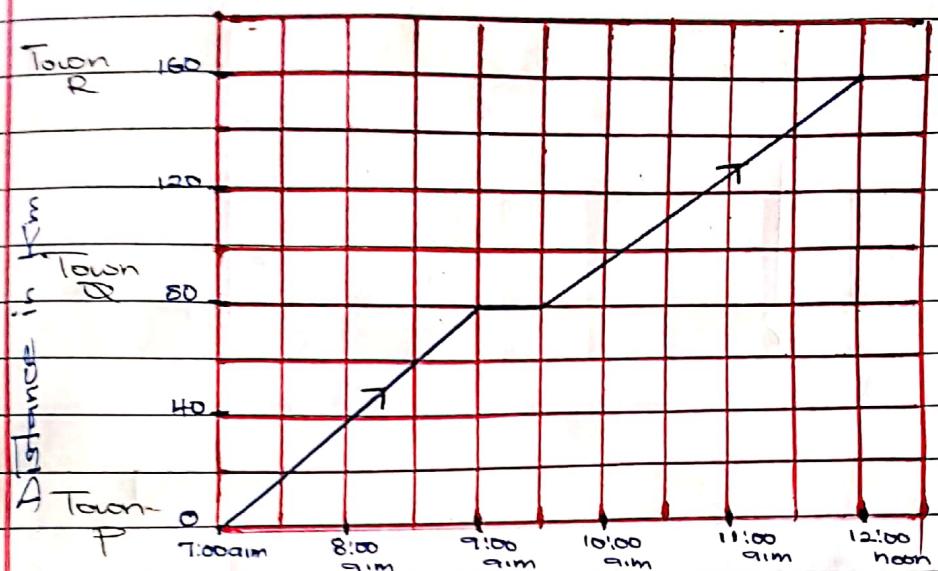
## Data Handling (P.7)

32A

- At what time did Peter start the journey
- At what steady speed was Peter travelling from his home to town.
- For how long did Peter rest at town.
- Calculate Peter's average speed for the whole journey.

32B.

A motorist drove from Town T to Town R via Town Q. Study the graph below carefully and use it to answer questions that follow.



Time in Hours

- How far is Town Q from P?
- For how long did the motorist stay at town Q.
- At what time did the motorist reach town Q?
- What was the motorist's average speed for the whole journey?

### Algebra (P.T)

30 B.

In a market, a rabbit is sold at sh. (3pt500)  
 while a hen at sh. (2p - 300). A trader paid  
 altogether sh. 63,500 for 5 hens and a  
 rabbit.

Find the cost of one rabbit.