

**MOTHERCARE PREPARATORY SCHOOLS**  
**REVISION WORK TERM 1 - 2020**  
**P.7 MATHEMATICS**  
*Time Allowed: 2 Hours 30 Minutes*

INDEX NO:

Random No.						Personal No.		

**GUIDE SET SIX**

Candidate's Name: \_\_\_\_\_

Candidate's Signature: \_\_\_\_\_ Stream: \_\_\_\_\_

School Random No: \_\_\_\_\_

District ID: \_\_\_\_\_

Read The Following Instructions Carefully.

1. The paper has two sections: A and B.
2. All the working for both sections A and B must be shown in the spaces provided.
3. All working must be done using a blue or black ball – point pen or fountain pen. Diagrams must be drawn in pencil.
4. Un necessary changes of work may lead to loss of marks.
5. Any handwriting that cannot easily be read may lead to loss of marks.
6. Do not fill anything in boxes indicated: "For Examiners' Use only" and those inside the question paper.

FOR EXAMINERS' USE ONLY			
SECTION	EXRS MARKS	T/L MARKS	OFFICE
A			
B			
TOTAL			

SECTION A: 40 MARKS

1. Add: 254 + 38

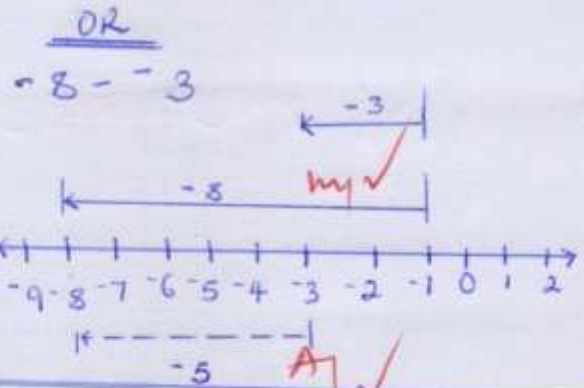
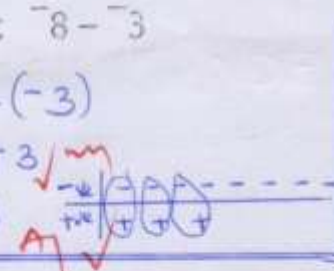
$$\begin{array}{r} 254 \\ + 38 \\ \hline 292 \end{array}$$

2. Work out:  $-8 - -3$

$$-8 - (-3)$$

$$-8 + 3$$

$$-5$$



3. Simplify:  $5x - 3p - 2x + 5p$

$$5x - 3p - 2x + 5p$$

$$5x - 2x + 5p - 3p$$

$$3x + 2p$$

4. Given that set  $P = \{1, 2, 3, 5\}$ , how many subsets has set P?

$$\begin{aligned} \text{No of subsets} &= 2^n \\ &= 2^4 \\ &= (2 \times 2) \times (2 \times 2) \\ &= (4 \times 4) \\ &= 16 \text{ subsets} \end{aligned}$$

5. Change  $3\frac{1}{5}$  kg to grams.

$$\frac{5 \times 3 + 1}{5}$$

$$\begin{aligned} 1 \text{ kg} &= 1000 \text{ g} \\ \frac{16}{5} \text{ kg} &= \frac{16}{5} \times 1000 \text{ g} \\ &= 16 \times 200 \text{ g} \\ &= 3200 \text{ g} \end{aligned}$$

$$\begin{array}{r} 1600 \\ \times 2 \\ \hline 3200 \end{array}$$

6. What is the next number in the sequence below?

1, 8, 27, 64, 125

↓   ↓   ↓   ↓   ↓

$1^3$   $2^3$   $3^3$   $4^3$   $5^3$

$$\begin{array}{r} (5 \times 5) \times 5 \\ 25 \times 5 \\ = 125 \\ \hline 125 \end{array}$$

12

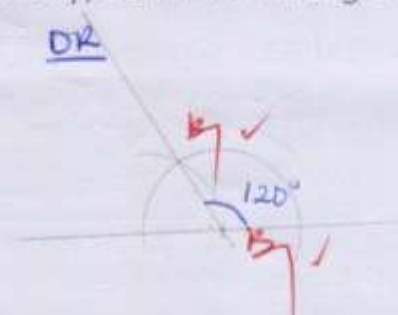
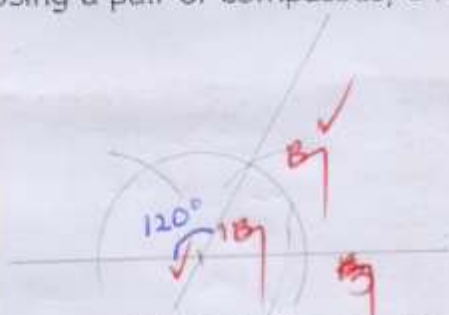
Cube numbers

7. Round off 7.964 to the nearest tenths.

$$\begin{array}{r}
 \overset{10}{7} \cdot \overset{t}{9} \overset{h}{6} \overset{th}{4} \\
 + 0.1 \\
 \hline
 8.0 \\
 \hline
 7.964 \approx 8.0
 \end{array}$$

$$\begin{aligned}
 \text{tenths} &= \frac{1}{10} \\
 &= 0.1
 \end{aligned}$$

8. Using a pair of compasses, a ruler and a pencil only, construct an angle of  $120^\circ$



9. Express 0.0684 in standard form.

$$\begin{aligned}
 0.0684 \times 10 &= 0.684 \\
 0.684 \times 10 &= 6.84 \\
 &= 6.84 \times 10^{-2}
 \end{aligned}$$

10. Solve:  $3(x+4) = 21$

$$\begin{aligned}
 3(x+4) &= 21 \\
 3x + 3 \times 4 &= 21 \\
 3x + 12 &= 21 \\
 3x + 12 - 12 &= 21 - 12 \\
 3x &= 9
 \end{aligned}$$

$$\begin{aligned}
 \frac{3x}{3} &= \frac{9}{3} \\
 x &= 3
 \end{aligned}$$

$$x = 3$$

11. Find the perimeter of the figure below.



$P = \text{sum of all sides}$

$$P = (11\text{cm} + 4\text{cm}) + (6\text{cm} + 9\text{cm}) + (5\text{cm} + 13\text{cm})$$

$$P = (15\text{cm} + 15\text{cm}) + 18\text{cm}$$

$$P = 30\text{cm} + 18\text{cm}$$

$$P = 48\text{cm}$$

10



12. Find the simple interest on sh.120,000 deposited in the bank at an interest rate of 5% per annum for 9 months.

$$SI = P \times R \times T$$

$$= \text{sh.}120,000 \times \frac{5}{100} \times \frac{9}{12} \text{ m}$$

$$= \text{sh.}100 \times 45$$

$$= \text{sh.}4500$$

13. Find base p given that  $23_p = 15_{\text{ten}}$ .

$23_p = 15_{\text{ten}}$	$2p + 3 = 15$	$p = 6$
$\begin{array}{ c c } \hline 2 & 3 \\ \hline p^1 & p^0 \\ \hline \end{array} = 15$	$2p + 3 - 3 = 15 - 3$	
$2 \times p^1 + 3 \times p^0 = 15$	$2p = 12$	$p$ is base six
$2 \times p + 3 \times 1 = 15$	$\frac{2p}{2} = \frac{12}{2}$	

14. Work out:  $3 - 4 = \underline{\quad}$  (Finite 5)

$3 - 4 = \underline{\quad}$  (finites)

$(3+5) - 4 = \underline{\quad}$  (finites) m

$8 - 4 = \underline{4}$  (finites)

$3 - 4 = \underline{4}$  (finites) A

15. The cashier of Hillside P/S has a bundle of ten thousand shillings notes numbered consecutively from PQ 001563 to PQ 001612. How much money has she?

Number of notes	Number of notes	Amount of money
<del>PQ 001563</del>	<del>PQ 001612</del>	50 x sh: 10,000
<del>- PQ 001612</del>	- PQ 001563	sh: 500,000
(1) notes	(49 + 1) notes	
	50 notes	

16. Given that  $q = 4$  and  $b = -2$ , find the value of  $2q - b$ .

$$2q - b$$

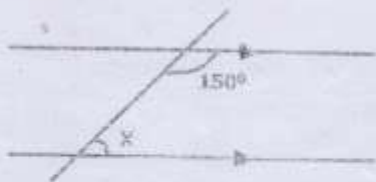
$$2 \times 4 - (-2) \text{ m}$$

$$8 + 2$$

$$10$$

10

17. Find the value of  $x$ .

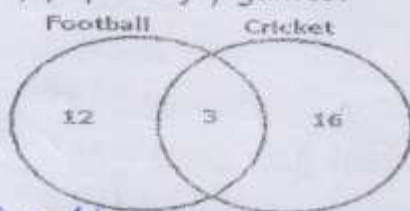


$$x + 150^\circ = 180^\circ \text{ (co-int. } \angle\text{s)}$$

$$x + 150^\circ - 150^\circ = 180^\circ - 150^\circ$$

$$x = 30^\circ$$

18. The Venn diagram below shows the number of pupils who play football (F) and Cricket (C). How many pupils enjoy games?



Total number of pupils

$$(12 + 3 + 16) \text{ pupils}$$

$$(15 + 16) \text{ pupils}$$

$$\underline{\underline{31 \text{ pupils}}}$$

19. The price of a shirt was increased by 10%. If the new price of sh. 44,000, find the old price.

Let the old price be  $k$   
 $100\% + 10\% = 110\%$

$$\frac{110}{100} \text{ of } k = \text{sh. } 44,000$$

$$\frac{110 \times k}{100} = \text{sh. } 44,000$$

$$\frac{110k}{100} \times 100 = \text{sh. } 44,000 \times 100$$

$$110k = \text{sh. } 4,400,000$$

$$\frac{110k}{110} = \frac{\text{sh. } 4,400,000}{110}$$

$$\underline{\underline{k = \text{sh. } 40,000}}$$

20. Abdul is  $x$  years old. He is 5 years younger than Madina. How old is Madina?

if Abdul is 5 years younger than Madina then Madina is 5 years older than Abdul.

Abdul		Madina
$x$ year		$(x+5)$ years

Madina is  $(x+5)$  years.

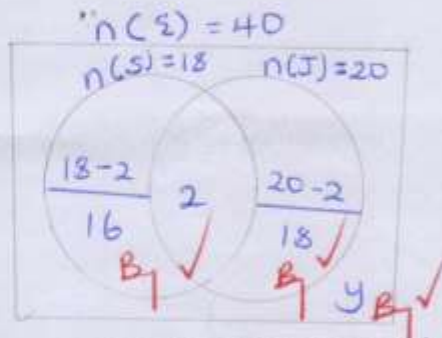
OS



SECTION B: 60 MARKS

21. At a wedding party attended by 40 guests, all drank water, 18 drank soda and water, 20 drank juice and water, 2 took all the three drinks,  $y$  guests drank water only.

(a) Represent the above information on a Venn diagram.



(b) How many guests drank juice only?

$$\begin{aligned} (16+2) + 18 + y &= 40 \\ (18+18) + y &= 40 \\ y + 36 &= 40 \\ y + 36 - 36 &= 40 - 36 \\ y &= 4 \end{aligned}$$

Juice only  
 $(20 - 2)$  guests  
 18 guests  
 B1 ✓

(c) Find the total number of members who took only two drinks.

$$\begin{aligned} (16+18) \text{ guests} \\ \underline{34 \text{ guests}} \quad B1 \checkmark \end{aligned}$$

22. In an examination containing 30 questions, 3 marks are awarded for every answer got correct and a mark is deducted for every number failed.

(a) Kafunvu got 20 questions correct, how many marks did he score

$$\begin{aligned} \text{Total marks} &= \text{Correct} - \text{Wrong} \\ &= (20 \times 3) - (10 \times 1) \quad m1 \checkmark \\ &= 60 - 10 \\ &= \underline{50 \text{ marks}} \quad A1 \checkmark \end{aligned}$$

(b) Sumayiya scored 66 marks, how many numbers did she fail?

Let the correct questions be  $c$

Correct	Wrong	Total
$c$	$30 - c$	30
$3 \times c$	$1 \times (30 - c)$	66

$$\begin{aligned} \text{Correct} - \text{Wrong} &= \text{Marks} \\ 3c - (30 - c) &= 66 \quad m1 \\ 3c - 30 + c &= 66 \end{aligned}$$

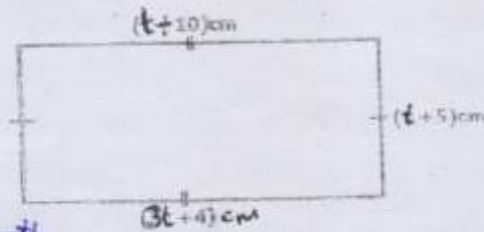
$$\begin{aligned} 3c + c - 30 &= 66 \\ 4c - 30 &= 66 \\ 4c - 30 + 30 &= 66 + 30 \end{aligned}$$

$$\begin{aligned} 4c &= 96 \\ \frac{4c}{4} &= \frac{96}{4} \\ c &= 24 \text{ questions} \end{aligned}$$

10

questions failed.  
 $30 - c$   
 $30 - 24$   
 6 questions  
 6 questions  
 A1 ✓

23. Use the figure below to answer the questions that follow.



Length = width  
a) Find the value of  $t$ .

$$(3t+4)\frac{\text{cm}}{\text{cm}} = (t+10)\frac{\text{cm}}{\text{cm}}$$

$$3t+4 = t+10$$

$$3t-t+4 = t-t+10$$

$$2t+4 = 10$$

$$2t+4-4 = 10-4$$

$$2t = 6$$

$$\frac{2t}{2} = \frac{6}{2}$$

$$t = 3 \text{ A} \checkmark$$

b) Find the length and width of the figure.

Length  
 $(t+10)\text{cm}$   
 $(3+10)\text{cm}$   
 $13\text{cm}$

Width  
 $t+5$   
 $(3+5)\text{cm}$   
 $8\text{cm}$

c) Work out the perimeter.

$$P = 2(L+W)$$

$$P = 2(13+8)\text{cm}$$

$$P = 2 \times 21\text{cm}$$

$$P = 42\text{cm} \text{ A} \checkmark$$

OR

$$P = L+W+L+W$$

$$= (13+8+13+8)\text{cm}$$

$$= 21\text{cm} + 21\text{cm}$$

$$= 42\text{cm} \text{ A} \checkmark$$

24. Jinja and Kampala are 90 kilometres apart. A motorist left Jinja for Kampala reaching it within 2 hours and returned within  $2\frac{1}{2}$  hours.

a) Find the speed of the motorist from Jinja to Kampala.

$D = 90\text{km}$   
 Jinja  $T = 2\text{hrs}$  Kampala

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

$$S = \frac{90\text{km}}{2\text{hrs}} = 45\text{km/hr} \text{ A} \checkmark$$

$$S = 45\text{hrs}$$

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

b) Work out the average speed of the motorist for the whole journey.

Total distance  
 $90\text{km} + 90\text{km}$   
 $180\text{km}$

Total time  
 $2 + 2\frac{1}{2}\text{hrs}$   
 $4\frac{1}{2}\text{hrs} \rightarrow \frac{9}{2}\text{hrs}$

$$\text{Average speed} = \frac{\text{Total distance covered}}{\text{Total time taken}}$$

$$= 180\text{km} \div \frac{9}{2}\text{hrs}$$

$$= 180\text{km} \times \frac{2}{9}\text{hrs}$$

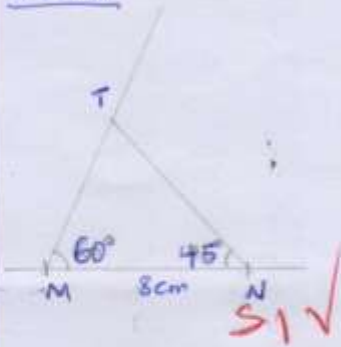
$$= (20 \times 2)\text{km/hr}$$

$$= 40\text{km/hr} \text{ A} \checkmark$$

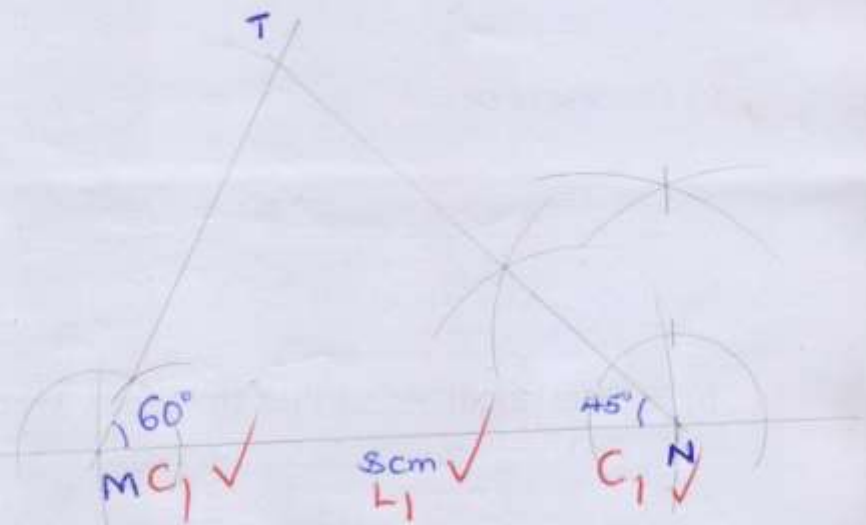
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25. a) Using a ruler, a pencil and a pair of compasses only, construct triangle  $M_1$  where angle  $\underline{TMN} = 60^\circ$ , angle  $\underline{MNT} = 45^\circ$  and  $\underline{MN} = 8 \text{ cm}$

Sketch



Accurate diagram



b) Measure:

- (i) Angle MTN

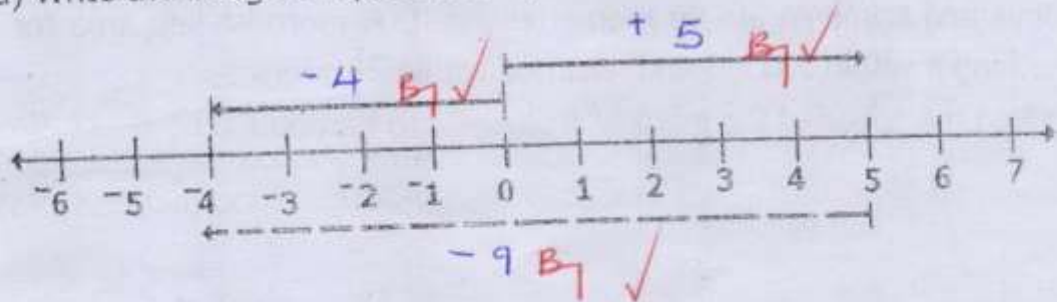
$75^\circ$  B1 ✓

- (ii) Line TM

$5.9 \text{ cm}$  B1 ✓

Accept  $5.8 \text{ cm}$   $5.9 \text{ cm}$  and  $6 \text{ cm}$ .

26. a) Write the integers represented by the arrows on the number line below.



- b) Write the mathematical statement that has been represented on the number line by the arrows.

$$\underline{\underline{-4 - +5 = -9}} \text{ B1 } \checkmark$$

10



27. Olanya had sh.55,000 and he bought the following items in the table below:

ITEM	QUANTITY	UNIT COST	TOTAL
Knickers in dozen	$\frac{1}{2}$ dozen	Sh.12000	Sh. 6,000 ✓
Skirts	2 skirts	Sh. 8000 ✓	Sh.16,000
Stockings in dozen	3 dozen ✓	Sh.1500	Sh.4,500
Blouses	2 blouses	Sh.6250	Sh. 12,500 ✓

a) Complete the table above correctly.

Knickers  
 $\frac{1}{2} \times \text{sh. } 12000$   
 1 sh. 6000 ✓

skirts  
 $\frac{2000}{1} \times \text{sh. } 8000$   
 sh. 8000 ✓

stockings  
 $\frac{4500}{3} \times \text{sh. } 1500$   
 3 dozen ✓

$\text{sh. } 6250$   
 $\times 2$   
 sh. 12,500 ✓

b) If he was given a discount of 10%, how much money did he pay for the items?

Total expenditure  
 sh. 12,500  
 sh. 16,000  
 sh. 6,000  
 sh. 4,500  
 sh. 39,000 ✓

$100\% - 10\% = 90\%$  ✓

$\frac{90}{100} \times \text{sh. } 39000$   
 sh. 35,100 ✓

He paid sh. 35,100

28. Mr. Web spends 25% of his salary on fees, 30% on food, 35% on medical care and saves the rest. Using a radius of 3.5cm, draw an accurate pie chart to show the above information.

Fees  
 $\frac{25}{100} \times 360^\circ$   
 $90^\circ$  ✓

Medical care  
 $\frac{35}{100} \times 360^\circ$   
 $126^\circ$  ✓

Food  
 $\frac{30}{100} \times 360^\circ$   
 $108^\circ$  ✓

Save  
 $360^\circ - (126^\circ + 90^\circ + 108^\circ)$   
 $36^\circ$  ✓

Pie chart



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29. Jane used  $\frac{1}{3}$  of her salary on food,  $\frac{2}{5}$  on clothing and saved the rest of her salary.

a) What fraction of her salary did she save? (2 mks)

$$1 - \left(\frac{1}{3} + \frac{2}{5}\right) = 1 - \frac{5+6}{15} = \frac{15-11}{15} = \frac{4}{15}$$

$$1 - \frac{\left(\frac{1}{3} \times 15\right) + \left(\frac{2}{5} \times 15\right)}{15} = 1 - \frac{5+6}{15} = \frac{4}{15}$$

$$1 - \frac{(1 \times 5) + (2 \times 3)}{15} = \frac{4}{15}$$

b) If she saved sh. 240,000, find her monthly salary.

Let her total salary be  $y$ .

$$\frac{4}{15} \text{ of } y = \text{sh. } 240,000$$

$$\frac{4}{15} \times y = \text{sh. } 240,000$$

$$\frac{4y}{15} \times 15 = \text{sh. } 240,000 \times 15$$

$$4y = \text{sh. } 240,000 \times 15$$

$$\frac{4y}{4} = \frac{\text{sh. } 240,000 \times 15}{4}$$

$$y = \text{sh. } 60,000 \times 15$$

$$y = \text{sh. } 900,000$$

30. The exchange rate of one United States Dollar to Uganda shillings is US \$ 1 to Ug. Sh. 3800 and the exchange rate of one Kenya shilling to Uganda shillings is Ksh. 1 to Ug. sh. 35.

a) If Mr. Azania was given Ksh. 19000, how many United States dollars did he have?

Change Ksh. 19000 to Ugsh.

$$\begin{array}{r} \text{Ugsh. } 35 \times 19000 \\ \text{Ugsh. } 35000 \\ \times \quad 19 \\ \hline 315000 \\ + 350000 \\ \hline \text{Ugsh. } 665,000 \end{array}$$

Change Ugsh. 665000 to US \$

$$\begin{array}{r} 175 \\ \text{Ugsh. } 665000 \text{ US \$} \\ \text{Ugsh. } 3800 \text{ m} \\ \hline 175 \text{ US \$} \end{array}$$

1	38
2	76
3	114
4	152
5	190
6	228
7	266
8	304
9	342

b) How much money in Uganda shillings do I have if I am given US \$ 1500?

$$\text{Ugsh. } 3800 \times 1500$$

$$\text{Ugsh. } 380000$$

$$\begin{array}{r} \text{Ugsh. } 380000 \\ \times \quad 15 \\ \hline 1900000 \\ + 3800000 \\ \hline \text{Ugsh. } 5700000 \end{array}$$

9



31. Bunjako had a sum of money which he gave out to his daughters Irene, Sylvia and Joan in the ratio of 4: 5: 6 respectively. If Irene got sh. 80,000 less than Joan, find the amount of money he gave out to his daughters.

a) How much was each given?

$$\begin{array}{r} \text{Total ratio} \\ 4+5+6 \\ 9+6 \\ 15 \end{array}$$

Let the amount of money he gave out be y

$$\frac{6-4}{15} \text{ of } y = \text{sh. } 80,000$$

$$\frac{2}{15} \times y = \text{sh. } 80,000$$

$$\frac{2y}{15} \times 15 = \text{sh. } 80,000 \times 15$$

$$\frac{2y}{2} = \text{sh. } \frac{80,000 \times 15}{2}$$

$$y = \text{sh. } 40,000 \times 15$$

$$y = \text{sh. } 150,000$$

$$\frac{y}{x} = \frac{150,000}{4}$$

$$\text{sh. } 600,000$$

Irene	Joan
$\frac{4}{15} \times \text{sh. } 600,000$	$\frac{6}{15} \times \text{sh. } 600,000$
sh. 160,000	sh. 240,000
Sylvia	
$\frac{5}{15} \times \text{sh. } 600,000$	
sh. 200,000	

b) What percentage of the money did Joan get?

$$\left(\frac{6}{15} \times 100\right)\% = 40\%$$

32. The table below represents the weight of girls in P.7 at St. Patrick Primary School. Study it carefully and answer the questions that follow.

Weight in kg	No. of girls	Tallies	Total
27	10		270
30	8		240
20	6		120
15	12		180
35	4		140
40	10		400

a) Complete the table above.

$27 \times 10$	$\frac{270}{30}$	$\frac{270}{6}$	$\frac{270}{15}$	$35 \times 4$	$\frac{400}{10}$
270	8	20	12	140	40

b) Find the modal weight.

15 kg

10

c) Calculate the average weight.

Total mark
270
240
120
180
140
400
1350

Total number of pupils
(10+8) + (6+12) + (4+10)
(18 + 18) + 14
36 + 14
50

$$\text{Average} = \left(\frac{1350}{50}\right) \text{ kg} = 27 \text{ kg}$$