

# MOTHERCARE PREPARATORY SCHOOLS

## REVISION WORK TERM I - 2020

### P.7 MATHEMATICS

Time allowed: 2 hours 30 minutes

$$\begin{array}{r} A = 40 \\ B = 60 \\ \hline T = 100\% \end{array}$$

Name: \_\_\_\_\_

Guide

School: \_\_\_\_\_

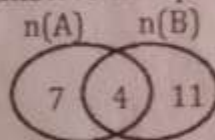
STREAM \_\_\_\_\_

#### SECTION A

1. Add:  $49 + 11$

$$\begin{array}{r} T.O \\ 49 \\ + 11 \\ \hline 60 \end{array} \begin{array}{l} M \\ \checkmark \\ A \\ \checkmark \end{array}$$

2. Study the Venn diagram below and answer the question that follows.



$$\begin{aligned} \text{Find } n(A) &= 7 + 4 \\ &= 11 \end{aligned} \begin{array}{l} B_2 \\ \checkmark \end{array}$$

3. A box contains 8 yellow buttons and 12 green buttons. A button is picked at random, what is the probability that it is green?

Total no of buttons

$$8 + 12$$

$$20$$

$$\text{Prob} = \frac{n(O.C)}{n(S)}$$

$$= \frac{12}{20}$$

B

4. Mr. Osiris was born in 7BC and died in 47AD. How old was he at the time of his death?

$$+47AD - 7BC$$

$$AD - BC$$

$$47 - (-7) \text{ years} \begin{array}{l} M \\ \checkmark \end{array}$$

$$(47 + 7) \text{ years}$$

$$54 \text{ years} \begin{array}{l} A \\ \checkmark \end{array}$$

5. The statement:  $(0.32 \times 111) - (11 \times 0.32)$  shows distributive property, simplify it.

$$(0.32 \times 111) - (11 \times 0.32)$$

$$0.32(111 - 11) \begin{array}{l} M \\ \checkmark \end{array}$$

$$\frac{32}{100} \times 100$$

$$32 \begin{array}{l} A \\ \checkmark \end{array}$$

6. The sum of 3 consecutive even numbers is 96. Find the smallest number.

Let the 1<sup>st</sup> no be y

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	Sum
y	y+2	y+4	96

$$y + y + 2 + y + 4 = 96 \begin{array}{l} B \\ \checkmark \end{array}$$

$$y + y + y + 2 + 4 = 96$$

$$3y + 6 = 96$$

$$3y + 6 - 6 = 96 - 6$$

$$3y = 90$$

$$\frac{3y}{3} = \frac{90}{3}$$

$$\boxed{30}$$

$$y = 30$$

The smallest no is

$$30 \begin{array}{l} A \\ \checkmark \end{array}$$

$$\text{Try } (20 \times 5.5) + (4.5 \times 20)$$

7. Peter had  $12\frac{1}{2}$  kg of meat. He decided to give it to 5 poor families in his village. How many kilos did each family get?

$$(12\frac{1}{2} \text{ kg} \div 5) \text{ kg} \quad \left(\frac{5 \times 1}{2 \times 1}\right) \text{ kg}$$

$$\frac{25}{2} \text{ kg} \div \frac{5}{1} \text{ M} \quad \checkmark \quad \frac{5}{2} \text{ kg} \quad \frac{00}{1} \quad \frac{11}{1}$$

$$\left(\frac{25}{2} \times \frac{1}{5}\right) \text{ kg} \quad \underline{2\frac{1}{2} \text{ kg each}} \quad \checkmark$$

8. Round off to the nearest tenths 4.08.

$$\begin{array}{r} 4.08 \\ + 0.1 \text{ M} \quad \checkmark \\ \hline 4.1 \text{ A} \quad \checkmark \end{array}$$

9. The amount of cement was increased in the ratio of 4:3 from 27 bags. Find new amount of cement after the increase.

$$\frac{4}{3} \times 27 \text{ bags}$$

$$\frac{4}{3} \times 27 \text{ bags M} \quad \checkmark$$

$$\frac{4 \times 9}{1} \text{ bags}$$

$$\underline{36 \text{ bags A}} \quad \checkmark$$

10. Change  $24_{\text{ten}}$  to base two.

B	N	R
2	24	0
2	12	0 M
2	6	0
2	3	1
	1	1

$$\underline{24_{\text{ten}} = 11000_{\text{two}} \text{ A}} \quad \checkmark$$

11. In a class there are 20 girls and 30 boys. Find the percentage of boys.

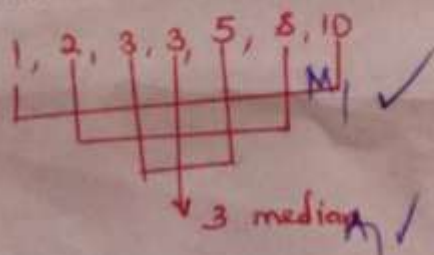
$$\frac{\text{Total number of pupils}}{20 + 30} = \frac{30}{50} \times 100\% \text{ M} \quad \checkmark$$

$$\frac{30}{50} \times \frac{20}{100} \times 100\%$$

$$3 \times 20\%$$

$$\underline{60\% \text{ A}} \quad \checkmark$$

12. Calculate the median of 3, 8, 2, 3, 10, 5 and 1.



13. Mary was given a bundle of 5000/= notes numbered from UG04231 to UG04430, how much money did she get?

$$\begin{array}{r} \text{UG04} \overset{3}{\cancel{4}} \overset{2}{\cancel{8}} \overset{0}{\cancel{0}} \\ - \text{UG04231} \\ \hline 199 \text{ + 1 notes} \\ \hline 200 \text{ notes} \\ \text{sh: } 5000 \times 200 \\ \text{sh: } 500000 \\ \hline \text{P.7 MTC} \quad \checkmark \quad \underline{\text{sh: } 1,000,000} \quad \checkmark \end{array}$$

14. Agaba rode his bicycle from his home to the market place at an average speed of 20km/hr for  $1\frac{1}{2}$  hours. What distance did he cover?

$$T = 1\frac{1}{2} \text{ hrs} \rightarrow \frac{3}{2} \text{ hrs}$$

$$D = S \times T$$

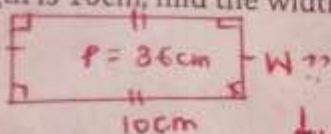
$$\frac{20 \text{ km}}{\text{hr}} \times \frac{3 \text{ hrs}}{2} \text{ M} \quad \checkmark$$

$$10 \text{ km} \times 3$$

$$\underline{30 \text{ km A}} \quad \checkmark$$



15. The perimeter of the rectangle is 36cm. if the length is 10cm, find the width.



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

$$10\text{cm} + W + 10\text{cm} + W = 36\text{cm}$$

$$W + W + (10 + 10)\text{cm} = 36\text{cm}$$

$$2W + 20\text{cm} = 36\text{cm}$$

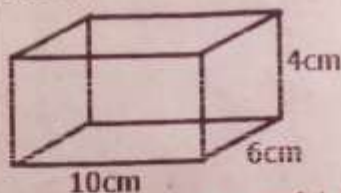
$$2W + 20\text{cm} - 20\text{cm} = 36\text{cm} - 20\text{cm}$$

$$2W = 16\text{cm}$$

$$\frac{2W}{2} = \frac{16\text{cm}}{2}$$

$$W = 8\text{cm}$$

16. Calculate the volume of the cuboid below.



$$V = \text{Base area} \times \text{Height}$$

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

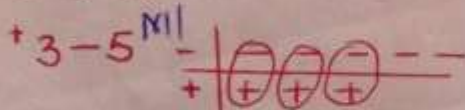
$$V = 10\text{cm} \times 6\text{cm} \times 4\text{cm}$$

$$V = 60\text{cm}^2 \times 4\text{cm}$$

$$\frac{60\text{cm}^2 \times 4\text{cm}}{1} = 240\text{cm}^3$$

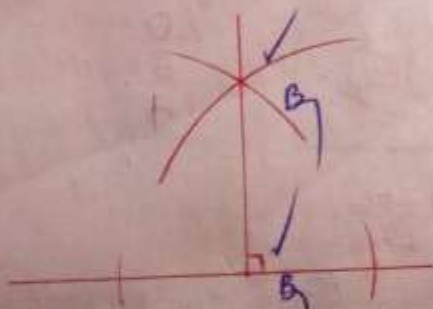
17. Work out:  $+3 + (-5)$

$$+3 + (-5)$$



$$-2$$

18. Using a ruler and a pair of compasses only, construct  $90^\circ$ .



19. Today is Thursday, what day of the week will it be 42 days from now?

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

$$4 + 42 = \dots (\text{finite})$$

$$46 \div 7 = 6 \text{ r } 4 (\text{finite})$$

$$4 (\text{finite})$$

The day will Thursday

20. Solve:  $\frac{2}{3}x = 18$

$$\frac{2}{3}x = 18$$

$$\frac{2}{3}x \times \frac{3}{2} = 18 \times \frac{3}{2}$$

$$x = \frac{54}{2}$$

$$x = 27$$

$$\frac{2}{3}x = 18$$

$$\frac{2}{3}x \times \frac{3}{2} = \frac{18 \times 3}{2}$$

$$x = 9 \times 3$$

$$x = 27$$

SECTION B (60 MARKS)

21(a) Peter is 10 years older than John. Their total age is 36 years. How old is Peter?

Let John's age be  $k$

Peter	John	Sum
$k + 10$	$k$	36

$$k + 10 + k = 36$$

$$k + k + 10 = 36$$

$$2k + 10 = 36$$

$$2k + 10 - 10 = 36 - 10$$

$$2k = 26$$

$$\frac{2k}{2} = \frac{26}{2}$$

$$k = 13$$

Peter

Peter (3mks)

$(k + 10)$  years

$(13 + 10)$  years

23 years

$$\frac{13}{1} + \frac{10}{1} = \frac{23}{1}$$

(2mks)

b) Given that  $x = 2$ ,  $y = -3$  and  $z = 5$ , find the value of  $\frac{2(x-y)}{z}$

$$\frac{2(x-y)}{z}$$

$$\frac{2(2-(-3))}{5}$$

$$\frac{2(2+3)}{5}$$

$$\frac{2 \times 5}{5}$$

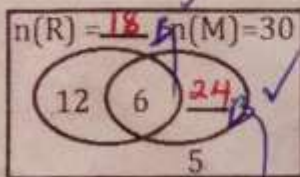
$$\frac{10}{5}$$

$$2$$

22. The Venn diagram below shows the number of pupils who eat rice (R), matooke (M) or both. Some pupils eat neither of the two.

(2mks)

a) Fill the spaces.



Matooke only  
~~30~~ pupils  
 - 6 pupils  
24 pupils

$n(R) = (12+6)$  pupils  
 18 pupils

b) What is the probability of picking a pupil who does not like matooke?

(3mks)

$(12+5)$  pupils  
 17 pupils

Prob =  $\frac{n(C \cap C)}{n(S)}$

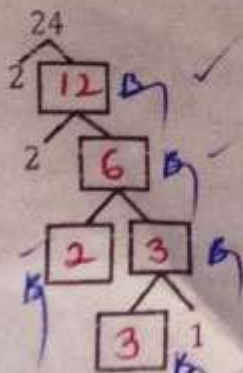
$= \frac{17}{47}$

Total no. of the pupils

$(12+6)+(24+5)$  pupils  
 $(18+29)$  pupils  
 47 pupils

23. The figure below is a factor tree, fill in the missing values.

(5mks)



$$24 \div 2 = 12$$

$$12 \div 2 = 6$$

$$6 \div 2 = 3$$

$$6 \div 3 = 2$$

$$3 \times 1 = 3$$

12



24(a) Jane and Mary shared 40 sweets such that Mary got  $\frac{3}{5}$  of the sweets. How many sweets did Jane get? (3mks)

Fraction for Jane

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

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

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

b) Express  $\frac{4}{5}$  as a decimal.

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

Jane got  
 $\frac{2}{5} \times 40$  sweets  
 $2 \times 8$  sweets  
16 sweets

$$4 \overline{) 20}$$

$$5 \overline{) 4.0}$$

$$\frac{4}{5} = 0.8$$

1	4
2	8
3	12
4	16
5	20
6	24
7	28
8	32
9	36
10	40

Multiples of 4

$$4 \times 4 = 16$$

1	5
2	10
3	15
4	20
5	25
6	30
7	35
8	40

25. The pie chart below shows how Opolot spends his monthly salary of 72000/=.



(a) Find the value of x. (2mks)

$$x + 110^\circ + 40^\circ + 90^\circ = 360^\circ$$

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

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

$$x = 120^\circ$$

b) What percentage of his income does he spend on fees? (2mks)

$$\frac{90^\circ}{360^\circ} \times \text{sh. } 72000 = \text{sh. } 20000$$

$$\left(\frac{90}{360} \times 100\right)\% = 25\%$$

c) How much money does he spend on food? (2mks)

$$\frac{40^\circ}{360^\circ} \times \text{sh. } 72000 = \text{sh. } 8000$$

26. The table below shows prices of different currencies at BIDX FOREX BUREAU

CURRENCY	BUYING (USH)	SELLING
Pound (£)	4800/=	5000/=
Dollar (\$)	3700/=	3900/=
Kenya shilling	35/=	37/=

LC We divide with selling  
LC = Local currency'

(2mks)

a) Peter had £500, how much money did he get in Uganda shillings?

FC we multiply with → Buying FC = Foreign currency

$$\begin{array}{r} \text{Ug sh: } 4800 \times 500 \\ \text{Ug sh: } 480000 \text{ M1 } \checkmark \\ \times \qquad \qquad \qquad 5 \\ \hline \text{Ug sh: } 2400000 \text{ A1 } \checkmark \end{array}$$

b) Kamau had KSH 200, how much money did he get in Uganda shillings. (2mks)

FC = We multiply with → Buying

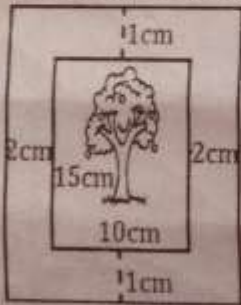
$$\begin{array}{r} \text{Ug sh: } 35 \times 200 \\ \text{Ug sh: } 3500 \text{ M1 } \checkmark \\ \times \qquad \qquad \qquad 2 \\ \hline \text{Ug sh: } 7000 \text{ A1 } \checkmark \end{array}$$

c) Odong had USH.600,000, how much money did he get in pounds (£)? (2mks)

LC → We divide with selling.

$$\begin{array}{r} \text{Ug sh: } 600000 \\ \text{Ug sh: } 8000 \text{ M1 } \checkmark \\ \hline 120 \text{ £} \text{ A1 } \checkmark \end{array}$$

27. The figure below shows a picture of length 15cm and width 10cm, in a frame.



a) Find the length of the frame. (1mk)

$$\begin{array}{l} \text{Length} \\ (15 + 1 + 1) \text{ cm} \\ \hline 17 \text{ cm} \text{ B1 } \checkmark \end{array}$$

b) Find the width of the frame (1mk)

$$\begin{array}{l} \text{Width} \\ (2 + 10 + 2) \text{ cm} \\ \hline 14 \text{ cm} \text{ B1 } \checkmark \end{array}$$

c) Find the area of the picture. (2mk)

$$\begin{array}{l} A = L \times W \\ = 15 \text{ cm} \times 10 \text{ cm} \text{ M1 } \checkmark \\ = 150 \text{ cm}^2 \text{ A1 } \checkmark \end{array}$$

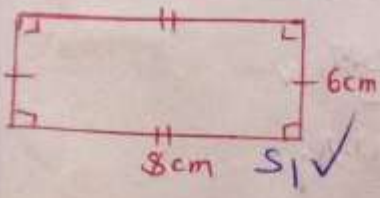
d) Find the area of the frame. (2mks)

$$\begin{array}{r} A = L \times W \\ 17 \text{ cm} \times 14 \text{ cm} \\ \begin{array}{r} 17 \text{ cm} \\ \times 14 \text{ cm} \text{ M1 } \checkmark \\ \hline 068 \text{ cm} \\ + 170 \\ \hline 238 \text{ cm}^2 \text{ A1 } \checkmark \end{array} \end{array}$$

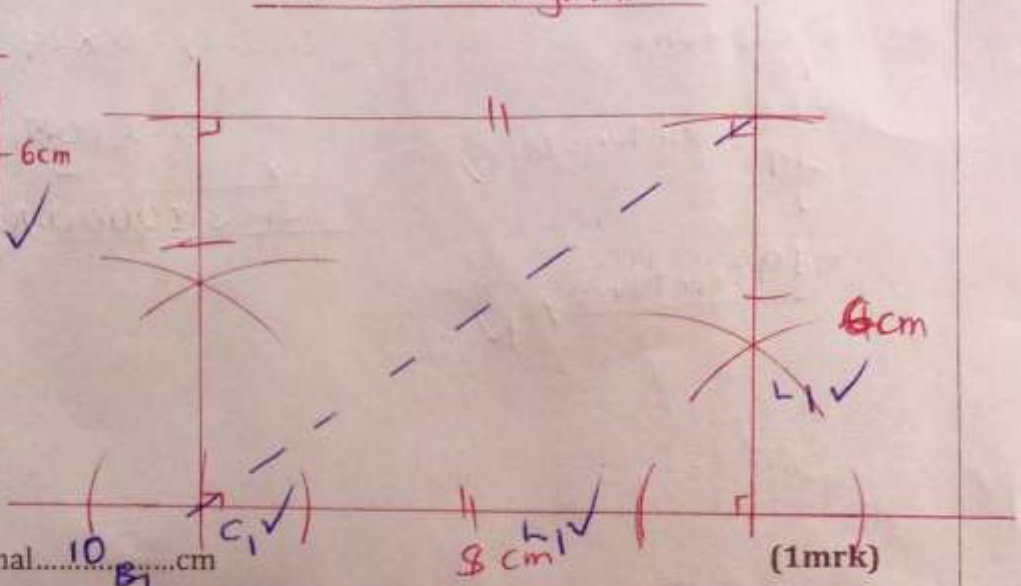


28. (a) Using a ruler and a pair of compasses only construct a rectangle measuring 8cm for length and 6cm width. (4mrks)

Sketch

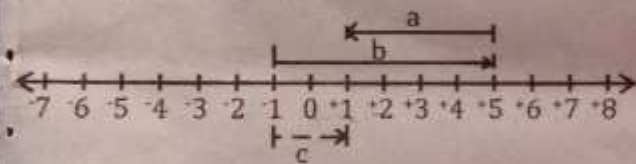


Accurate diagram



(b) Measure the diagonal.....10.8.....cm (1mrk)

29. Study the number line below and answer the questions that follow.



a) Name the integers marked (3mks)

a = -4 B b = +6 B

c = +2 B

b) Write the mathematical statement shown above. (1mk)

$b + a = c$   
 $6 + -4 = +2$  B

30. James, Jim and Jane shared 9000/= in the ratio of 1:3:5 respectively. Find their shares. (4mks)

<p><u>Total ratio</u></p> $\frac{1+3+5}{9} = \frac{9}{9}$ <p>B</p>	<p><u>James</u></p> $\frac{1}{9} \times \text{sh. } 9000$ <p>sh. 1000 B</p> <p><u>Jim</u></p> $\frac{3}{9} \times \text{sh. } 9000$ <p>sh. 1000 x 3</p> <p>sh. 3000 B</p>	<p><u>Jane</u></p> $\frac{5}{9} \times \text{sh. } 9000$ <p>sh. 1000 x 5</p> <p>sh. 5000 B</p>
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10

Change 264 to 266 → so that is divisible by 14.

31. At Jesa Dairy Farm, milk is packed in cartons of 14 packets of milk each.

i) How many cartons can be filled with 266 packets? (2mks)

No. of cartons

$$\frac{266}{14} \text{ Cartons } M_1 \checkmark$$

$$19 \text{ cartons } A_1 \checkmark$$

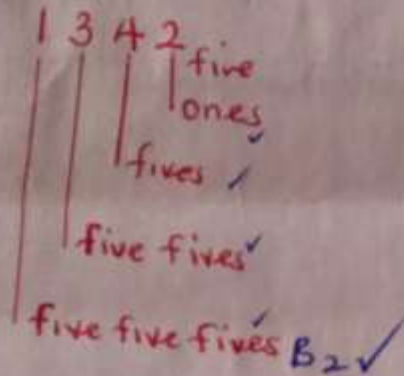
ii) If each carton costs 20,000/=, find the cost of all the cartons. (2mks)

$$S.L: 20000 \times 19$$

$$S.L: 190,000 M_1 \checkmark$$

$$\underline{S.L: 380,000 A_1 \checkmark}$$

32(a) Show the place values of each digit in 1342<sub>five</sub>. (2mks)



b) Work out:  $101_{two} \times 100_{two}$ . (2mks)

$$\begin{array}{r} 101_{two} \\ \times 100_{two} \\ \hline 00101_{two} \\ 00000 \\ 10100 \\ \hline 11001_{two} \end{array} \quad \begin{array}{l} M_1 \checkmark \\ +1=2 \\ 2 \div 2 = 100 \end{array}$$

c) Change to base ten,  $87_{nine}$ . (2mks)

8	7
9 <sup>1</sup>	9 <sup>0</sup>

$$(8 \times 9^1) + (7 \times 9^0) M_1 \checkmark$$

$$8 \times 9 + 7 \times 1$$

$$72 + 7$$

$$\underline{79_{ten} A_1 \checkmark}$$

\*\*\*\*\*GOD BLESS\*\*\*\*\*