P.7 MATHEMATICS MARKING GUIDE PRE MOCK SET 1 2024

P.7 MTC B.O.T II MARKING GUIDE

1.

$$\begin{array}{r} {}^{+1} \\ 2\ 3 \\ \times\ \ 4 \\ \hline 9\ 2 \end{array}$$

4×3 = 12
4×2 = 8+1
9

2. 496 = 400+90+6

400	90	6
CD	XC	VI

∴ 496 = CDXCVI

3. $m = (5\times10^0) + (9\times10^{-2})$
$m = (5\times1) + 9\times\frac{1}{100}$
$m = 5 + \frac{9}{100}$
$m = 5 + 0.09$
$m = 5.09$

4. 5m − 3n + m − 2n
5m + m − 3n − 2n
6m − 5n

5. $(Y)' = \{J, h\}$
$n(Y)' = 2$

6. $1\frac{2}{3} \div \frac{5}{6}$
$\frac{5}{3} \div \frac{5}{6}$
$\frac{5}{3} \times \frac{6}{5}$ (cancelling: $\frac{1}{1}\times\frac{2}{1}$)
$\frac{2}{1}$
2

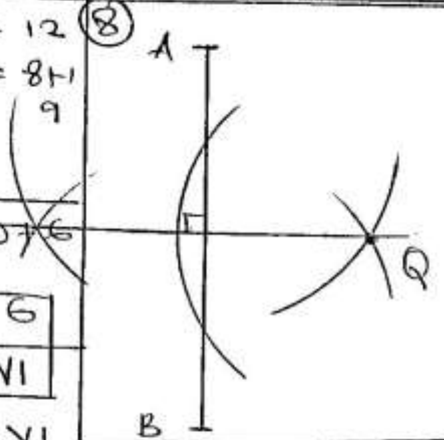
7.

2	12	18
3	6	9
	2	3

GCF = 2 × 3
6

∴ The GCF of 12 and 18 is 6.

8.



9. $c = b^2$
$c = b\times b$
$c = -4\times-4$
$c = 16$
3b − c
3×b − c
3×−4 − 16
−12 − 16
−28

10. $\frac{\text{Sum of data}}{\text{No. of data}}$ = Mean
$\frac{Y+1+2+0+4}{4} = 3$
$\frac{Y+7}{4} = 3$
$\frac{(Y+7)}{4}\times4 = 3\times4$
Y + 7 = 12
Y + 7 − 7 = 12 − 7
Y = 5

11. $2^k \div 8 = 1$
$2^k \div 2^3 = 2^0$
$2^{k-3} = 2^0$
K − 3 = 0
K − 3 + 3 = 0 + 3
K = 3

(8 = 2 × 2 × 2)

12. 1 dozen = 12 items
2 pictos rept 12 balls
1 picto repts $\frac{12}{2}$ balls
1 picto repts 6 balls
$\left(\frac{42 \text{ balls}}{6 \text{ balls}}\right)$ pictures
7 pictures

13.

$$\begin{array}{r} \text{DC } 2819\,2812 \\ -\text{DC } 2819\,238 \\ \hline 44+1 \\ \hline 45 \text{ notes} \end{array}$$

Amount
Sh. 50,000 × 45
Sh. 450000 × 5
Sh. 2,250,000

14.

Score	Miss
$\frac{4}{5}$	$\frac{1}{5}$
12 penalties	3 penalties

1 part repts 3 penalties
4 parts rept (3×4) penalties
12 penalties
∴ He scored 12 penalties.

15. D = S × T
$80\frac{km}{hr} \times 2\frac{1}{4}hrs$
$80km \times \frac{9}{4}$
20km × 9
∴ D = 180km

16. $2d + 3d + 4d = 360°$

$9d = 360°$

$\frac{9d}{9} = \frac{360°}{9}$

$d = 40°$

17. 1 litre = 1000ml

$1\frac{1}{2}$ litres = $(1\frac{1}{2} \times 1000)$ ml

$(\frac{3}{2} \times 1000)$ ml

1500ml

∴ $1\frac{1}{2}$ litres = 1500ml

18. $(72 \div 4) + (28 \div 4)$

$(72 + 28) \div 4$ (72 + 28 = 100)

$100 \div 4$

25

19. No. of people = $\frac{(p \times 2) - 1 + (p \times 2) - 1}{2}$

$\frac{(7 \times 2) - 1 + (11 \times 2) - 1}{2}$

$\frac{14 - 1 + 22 - 1}{2}$

$\frac{13 + 21}{2}$

$\frac{34}{2}$

17

∴ 17 people were standing in the line

20. Base line × H = Area

$7cm \times h = 28cm^2$

$\frac{7cm \times h}{7cm} = \frac{28cm \times cm}{7cm}$

$h = 4cm$

∴ Its height is 4 cm.

SECTION B.

21) a)

$2y + 4 = 16$

$2y + 4 - 4 = 16 - 4$

$2y = 12$

$\frac{2y}{2} = \frac{12}{2}$

$y = 6$

b) Meat

$y + 7 + 5$

$6 + 7 + 5$

$6 + 12$

18 pupils

c) Total

$18 + 16 + 3$

$18 + 19$

37 pupils

Probability = $\frac{n(E)}{n(S)}$

$\frac{3}{37}$

(3 + 1 = 4)

22) a)

214_{three}

$- 12_{three}$

122_{three}

b) 21_{three}

$(2 \times 3) + (1 \times 1)$

$6 + 1$

7_{ten}

Base	No	Rem
2	7	1
2	3	1
2	1	1
	0	

∴ $21_{three} = 111_{two}$

23) a) Common intervals

2	30	40
2	15	20
2	15	10
3	15	5
5	5	5
	1	1

$15 \times 8 = 120$

$2 \times 2 \times 2 \times 3 \times 5$

8×15

120 minutes

b) 1hr = 60minutes

120 minutes ÷ 60 minutes

2 hours.

10 : 30 a.m

+2 00 hrs

12 : 30 p.m

24) Meat

$\frac{Sh. 20,000}{Sh. 16000} = 1\frac{1}{4}$ kg

Rice

Sh. 4000 × 2 = Sh. 8,000

Sh. 20,000 + Sh. 8,000 = Sh. 28,000

C. oil

Sh. 30 500 − Sh. 28000 = Sh. 2,500

C. oil

Sh. 2500 ÷ $\frac{1}{2}$

Sh. 2500 × 2

Sh. 5,000

b) Change

Sh. 40,000

−Sh. 30 500

Sh. 9,500

∴ His change is sh. 9,500.

25 a)

$$\frac{1.2 + 2.4}{0.4 \times 0.9}$$

1.2
+2.4
3.6

$$\frac{3.6}{0.4 \times 0.9}$$

$$\frac{36}{10} \div \left(\frac{4}{10} \times \frac{9}{10}\right)$$

$$\frac{\cancel{36}^{4}}{10} \times \frac{10}{\cancel{4}_{1}} \times \frac{\cancel{10}^{1}}{\cancel{9}_{1}}$$

$$\frac{1}{1} \times \frac{10}{1} \times \frac{1}{1}$$

10

Accept 10.0

b)

$$\frac{1}{3} - \frac{7}{8} + \frac{3}{4}$$

$$\frac{1}{3} + \frac{3}{4} - \frac{7}{8} \quad (LCM = 24)$$

$$\frac{\frac{1}{3} \times \cancel{24}^{8} + \frac{3}{\cancel{4}_{1}} \times \cancel{24}^{6} - \frac{7}{\cancel{8}} \times \cancel{24}^{3}}{24}$$

$$\frac{1 \times 8 + 3 \times 6 - 7 \times 3}{24}$$

$$\frac{8 + 18 - 21}{24}$$

$$\frac{26 - 21}{24}$$

$$\frac{5}{24}$$

26 a)

$$2 + 1 + 3 + 4$$

$$3 + 7$$

10 pupils

b) Table

Marks	70	90	m	60
No of pupils	2	1	3	4

Average mark.

$$\frac{\text{Sum of data}}{\text{No of data}} = \text{Average}$$

$$\frac{(1 \times 3) + (50 \times 4) + (70 \times 2) + 90}{10} = 71$$

$$\frac{3m + 240 + 140 + 90}{10} = 71$$

$$\frac{3m + 470}{10} = 71$$

$$\left(\frac{3m + 470}{\cancel{10}_{1}}\right) \times \cancel{10}^{1} = 71 \times 10$$

$$3m + 470 = 710$$

$$3m + 470 - 470 = 710 - 470$$

$$3m = 240$$

$$\frac{\cancel{3}^{1}m}{\cancel{3}_{1}} = \frac{\cancel{240}^{80}}{\cancel{3}_{1}}$$

$$m = 80$$

∴ The three pupils in the given table scored 80 marks each.

27) Let Tina's age be k

Tina	Doreen	Sharifu
k	k − 4	k − 4 − 2 = k − 6

54

$$k - 4 + k - 6 = 54$$

$$2k - 10 = 54$$

$$2k - 10 + 10 = 54 + 10$$

$$2k = 64$$

$$\frac{\cancel{2}^{1}k}{\cancel{2}_{1}} = \frac{\cancel{64}^{32}}{\cancel{2}_{1}}$$

$$k = 32$$

Doreen

$$k - 4$$

$$32 - 4$$

28 kg

28) a)

Buying price

Sh. 12000 × 5

Sh. 60,000

Selling price

Sh. 15000 × 5

Sh. 75,000

Profit = S.P − B.P

Sh. 75,000 − Sh. 60,000

Sh. 15,000

b)

$$\% \text{ profit} = \frac{\text{Profit}}{\text{C.P}} \times 100\%$$

$$\frac{\text{Sh.}\cancel{15,000}^{50}}{\text{Sh.}\cancel{60,000}^{2}} \times 100\%$$

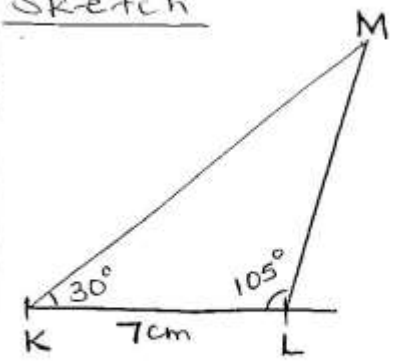
$$\frac{\cancel{50}^{25}}{\cancel{2}_{1}} \times 1\%$$

25%

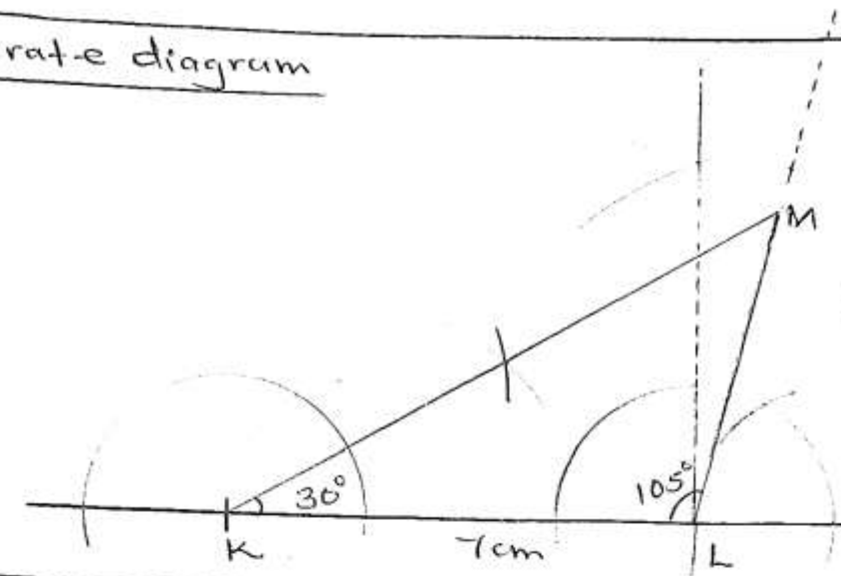
∴ % profit = 25%

29 a)

Sketch



29 Accurate diagram



(b) LM = 4.9cm

30. a)

Morning	Afternoon	Evening	Total
2 :	5 :	3	2+5+3 10

3 shares rept 27 metres

1 share repts $\frac{27}{3}$ metres

1 share repts 9 metres

Total length of the wire

10 x 9 metres

90 metres

∴ The length of the wire is 90 metres.

b) Length of the wire sold in the morning

2 x 9 metres

18 metres

∴ 18 metres were sold in the morning.

31) a)

$\frac{1}{2} \times b \times h = \frac{1}{2} \times b \times h$

$\frac{1}{2} \times 8cm \times h = \frac{1}{2} \times 10cm \times 4cm$

$\frac{1}{2} \times 8cm \times h = \frac{1}{2} \times 10cm \times 4cm$

$4cm \times h = 5cm \times 4cm$

$\frac{4cm \times h}{4cm} = \frac{5cm \times 4cm}{4cm}$

$h = 5cm$

(b) Perimeter

$S_1 + S_2 + S_3$

8cm + 10cm + 5cm

18cm + 5cm

23cm

32) a)

$2p + 30° + 4p + 20° + 3p + 40° = 360°$

$9p + 90° = 360°$

$9p + 90° - 90° = 360° - 90°$

$9p = 270°$

$\frac{9p}{9} = \frac{270°}{9}$

$p = 30°$

(b) First grade degrees

2p + 30°

2xp + 30°

2x30° + 30°

60° + 30°

90°

90° rept 27 candidates

1° repts $\frac{27}{90}$ candidates

360° rept $\left(\frac{27}{90} \times 360\right)$

$\frac{27}{90} \times 360$

27 x 4

$27 \times 4 = 108$

108 candidates

∴ 108 candidates sat for the exam.

END