

PRIMARY SEVEN MARKING GUIDE FOR PRE-MOCK 2024
MATHEMATICS

SECTION A

1. Work out 275

- 53

222 ✓✓ B2

2. Write 54,045 in words

1 TH	1 H	4 T	5
		0 45	

Fifty four-thousand, forty five ✓✓ B2

3. Given that $a=2$ and $b=-1$ find the value of $a^3 - 2b$

$$(a \times a \times a) - (2 \times b)$$

$$(2 \times 2 \times 2) - (2 \times -1) \checkmark M1$$

$$(8) - (-2) \checkmark$$

$$8 + 2 = 10 \checkmark A1$$

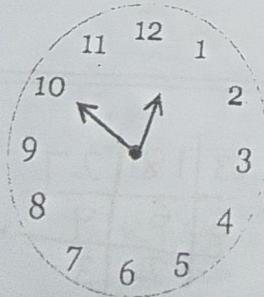
4. Find the next number in the sequence

$$3, 4, 7, 12, 19, 28, \underline{39} \checkmark B1$$

$$\cancel{3} + \cancel{3} + \cancel{5} + \cancel{7} + \cancel{9} + \cancel{11} \checkmark B1$$

$$28 + 11 = 39 \checkmark$$

5. The time shown on the clock face below is in the afternoon. Write it in 24-hour clock



12:50 PM ✓ B1

12:50 ✓
 $+ 00 \text{ hours}$
 12:50 hours ✓ B1

OR

12:50 ✓
 $+ 00 \text{ hours}$ ✓

12:50 hours ✓ B1

6. Simplify

$$\frac{9}{21} \div \frac{3}{7} \quad L.C.M = 21$$
$$\left(\frac{3}{7} \times \frac{9}{21}\right) \div \left(\frac{3}{7} \times \frac{3}{7}\right) \checkmark M1$$
$$(1 \times 9) \div (3 \times 3) \checkmark$$
$$9 \div 9 = 1 \checkmark A1$$

$$\frac{9}{21} \div \frac{3}{7} \checkmark$$
$$\frac{3}{7} \times \frac{9}{21} \checkmark M1$$
$$\frac{3}{7} \times \frac{3}{7}$$
$$\frac{1 \times 1}{1 \times 1} = 1 \checkmark A1$$

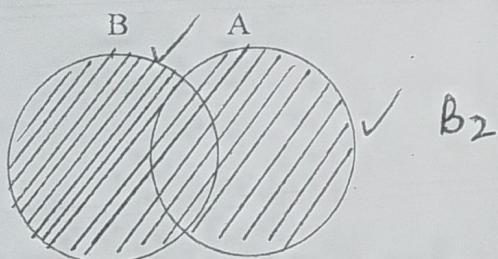
$$\frac{9 \div 3}{21} \checkmark$$
$$\frac{M1}{21 \div 7} = \frac{3}{3} \checkmark$$
$$= \frac{3}{3} \checkmark$$
$$= 1 \checkmark A1$$

7. Work out

$$(72 \times 5) - (5 \times 48)$$
$$= 360 - 240 \checkmark M1$$
$$= 120 \checkmark A1$$

$$5(72-48) \checkmark$$
$$5(24) \checkmark M1$$
$$5 \times 24 = 120 \checkmark A1$$

8. Shade either set A or set B



9. Find the value of 3 in 4321 five

$$3 \times \text{five-five} \checkmark$$
$$3 \times 5 \times 5 \checkmark$$
$$3 \times 10 \text{ five} \times 10 \text{ five} \checkmark M1$$
$$= 300 \text{ five} \checkmark A1$$

10. Find the G.C.F of 18 and 27

$$F_{18} = \{1, 2, 3, 6, 9, 18\} \checkmark$$

$$F_{27} = \{1, 3, 9, 27\} \checkmark$$

$$CF = \{1, 3, 9\} \checkmark$$

$$G.C.F = 9 \checkmark$$

$$\begin{array}{r|rr} 3 & 18 & 27 \\ \hline 3 & 6 & 9 \\ & 2 & 3 \end{array} \checkmark$$

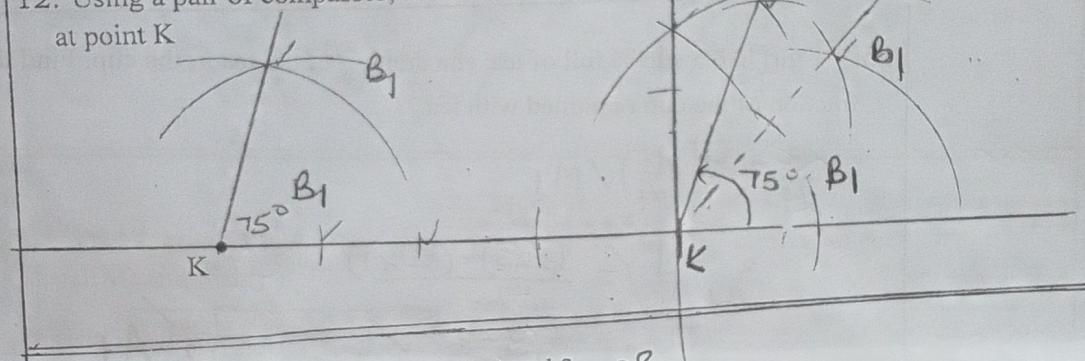
$$G.C.F = 3 \times 3 \checkmark$$
$$= 9 \checkmark$$

11. The cost of three US dollars is Ug sh. 10,950. Find the number of dollars that Martha will buy with Ug. sh. 255,500

$$\frac{10950}{3} \quad 3650 \checkmark B_1$$

$$\begin{array}{r} 5110 \\ 255500 \\ \hline 3650 \end{array} \quad \begin{array}{r} 70 \\ 5110 \\ 73 \\ \hline 73 \end{array} \quad 70 \text{ us dollars. } B_1$$

12. Using a pair of compasses, a ruler and a pencil only construct an angle of 75° at point K

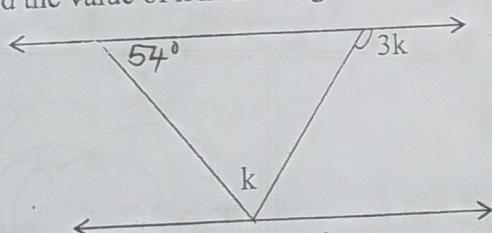


13. Work out the median of 1, 2, 3, 3, 4 and 3

$$\begin{aligned} &= -3, -2, 1, 3, 3, 4 \checkmark M_1 \\ &= \frac{1+3}{2} \checkmark \\ &= \frac{4}{2} \checkmark \\ &= 2 \checkmark A_1 \end{aligned}$$

$$\begin{aligned} &\stackrel{DR}{=} 4, 3, 3, 1, -2, -3 \checkmark M_1 \\ &= \frac{3+1}{2} \\ &= \frac{4}{2} \checkmark \\ &= 2 \checkmark A_1 \end{aligned}$$

14. Find the value of k in the diagram below



$$K + 54^\circ = 3k \checkmark M_1$$

$$K - 3k + 54 = 3k - 3k \checkmark$$

$$-2k + 54 = 0$$

$$-2k + 54^\circ = 0 - 54^\circ \checkmark$$

$$-2k + 0 = -54^\circ \checkmark$$

$$\frac{-2k}{2} = \frac{-54^\circ}{2} \checkmark$$

$$k = 27^\circ \checkmark A_1$$

$$3k = K + 54^\circ \checkmark M_1$$

$$3k - k = K - K + 54^\circ \checkmark$$

$$2k = 0 + 54^\circ \checkmark$$

$$\frac{2k}{2} = \frac{54^\circ}{2} \checkmark$$

$$k = 27^\circ \checkmark A_1$$

(c) Work out the number of pupils who do not eat fish at all
(01 marks)

$$4t - 8 + t$$

$$4 \times 10 - 8 + 10 \checkmark$$

$$40 - 8 + 10 \checkmark$$

$$32 + 10 = 42 \checkmark \text{ B1}$$

22. A school Bursar went to the market and bought the following items

2kg of meat at sh. 15,000 per kg

4kg of rice at sh. 5,000 each kg

3 ½ kg of sugar at sh. 4,600 per kg

1 ½ kg of tea leaves at sh. 1,500

If the Bursar was given a change of sh. 23,000, find the total amount of money, he went with
(05 marks)

$$\text{meat} = \text{sh. } 15,000 \times 2$$

$$= \text{sh. } 30,000 \checkmark \text{ B1}$$

$$\text{rice} = \text{sh. } 5,000 \times 4$$

$$= \text{sh. } 20,000 \checkmark \text{ B1}$$

$$\text{sugar} = \text{sh. } 4,600 \times 7$$

$$= \text{sh. } 23,000 \checkmark \text{ B1}$$

$$= \text{sh. } 16,100 \checkmark \text{ B1}$$

$$\text{Tea leaves} = \text{sh. } 1,500$$

$$\text{sh. } 30,000 \checkmark$$

$$\text{sh. } 20,000 \checkmark$$

$$\text{sh. } 16,100 \checkmark \text{ M1}$$

$$\text{sh. } 23,000 \checkmark$$

$$+ \text{sh. } 1,500$$

$$\text{sh. } 90,160 \text{ A1}$$

23. A packet containing 2 dozen of pens weighs 9.6kg, if the empty packet weighs 2.4kg. Find the weight of each pen in grammes.

$$9.6 \text{ kg} \quad 1 \text{ kg} = 1000 \text{ g}$$

$$- 2.4 \text{ kg}$$

$$\frac{7.2 \text{ kg}}{1000} \checkmark \text{ B1}$$

$$72 \times 1000 \checkmark$$

$$\frac{1}{1000}$$

$$7200 \text{ g} \checkmark \text{ B1}$$

$$1 \text{ dozen} = 12 \text{ pens}$$

$$2 \text{ dozen} = 2 \times 12$$

$$= 24 \text{ pens} \checkmark \text{ B1}$$

NO of pens

$$\left(\frac{7200}{24} \right) \text{ g}$$

$$300 \text{ g} \checkmark \text{ B1}$$

$$9.6 \times 1000 = 9600 \text{ g. } \checkmark \text{ B1} \quad (04 \text{ marks})$$

$$2.4 \times 1000 = 2400 \text{ g. } \checkmark \text{ B1}$$

$$9600 \text{ g} - 2400 \text{ g} = 7200 \text{ g. } \checkmark \text{ B1}$$

$$2 \text{ dozen} = 2 \times 12$$

$$= 24 \text{ pens}$$

$$\left(\frac{7200}{24} \right) \text{ g} = 300 \text{ g B1}$$

19. Work out $20 \div 5 \times 4$

$$(20 \div 5) \times 4 \checkmark \text{ M1}$$
$$4 \times 4 = 16 \checkmark \text{ A1}$$

20. A motorist rode 150km in 75 minutes, find the speed of the motorist in kilometres per hour

$$1\text{h} = 60\text{min} \quad \text{Speed} = \text{Distance} \div \text{Time}$$

$$S = D \div T \checkmark$$

$$S = 150\text{km} \div 75 \text{ min} \checkmark \text{ M1}$$

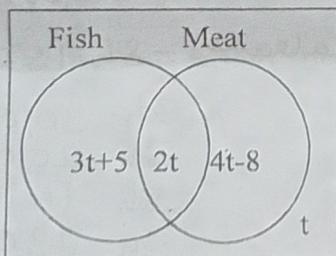
$$S = \frac{150\text{km}}{75 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ h}} \checkmark$$

$$S = 6 \text{ km} \times \frac{20}{n} \checkmark$$

$$S = 120 \text{ km/h. A1}$$

SECTION B

21. The diagram below shows the number of pupils in a p.7 class who eat meat(M) and Fish(F)



(a) Find the value of t, if 52 pupils eat meat. (02marks)

$$2t + 4t - 8 = 52 \checkmark \text{ M1}$$

$$6t - 8 = 52 \checkmark$$

$$6t - 8 + 8 = 52 + 8 \checkmark$$

$$6t + 0 = 60 \checkmark$$

$$\frac{6t}{6} = \frac{60}{6} \checkmark \quad t = 10 \checkmark \text{ A1}$$

(b) Find the total number of pupils in the class (01 marks)

$$= (3 \times 10 + 5) + (2 \times 10) + (4 \times 10 - 8) + 10 \checkmark$$

$$= (30 + 5) + (20) + (40 - 8) + 10 \checkmark$$

$$= 35 + 20 + 32 + 10 \checkmark$$

$$= 97 \text{ PLSV B1}$$

15. Given that

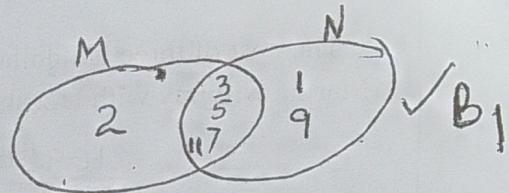
$$\text{Set } M = \{2, 3, 5, 7, 11\}$$

$$\text{Set } N = \{1, 3, 5, 7, 9, 11\}$$

$$\text{Find } n(N-M).$$

$$N - M = \{1, 9\} \checkmark B_1$$

$$n(N-M) = 2 \checkmark B_1$$



$$N - M = \{1, 9\} \checkmark$$

$$n(N-M) = 2 \checkmark B_1$$

16. A girl had a cup $\frac{3}{4}$ full of tea, she drank $\frac{2}{9}$ of the tea in the cup. Find the fraction of the cup remained with tea.

$$\frac{3}{4} - \left(\frac{2}{9} \times \frac{3}{4}\right) \checkmark M_1$$

$$\frac{3}{4} - \frac{1}{6} = \frac{(3 \times 3) - (2 \times 1)}{12} \\ = \frac{9 - 2}{12} \checkmark$$

$$\frac{7}{12} \checkmark A_1$$

17. A boy bought 4 packets of biscuits each weighing 350g. Find the weight of the biscuits in kilograms

$$4 \times 350 = 1400 \text{ g} \checkmark B_1$$

$$1 \text{ kg} = 1000 \text{ g} \checkmark$$

$$1400 \text{ g} = \frac{1400}{1000} \text{ kg}$$

$$\frac{14}{10} = 1.4 \text{ kg} \checkmark B_1$$

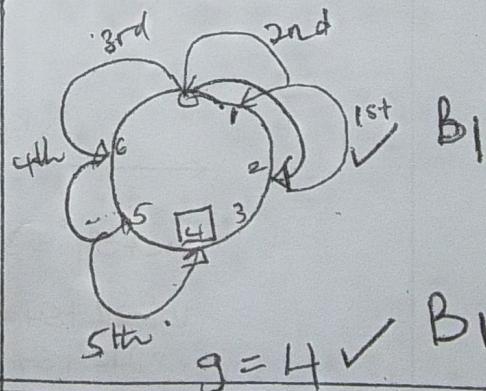
18. Find the value of g

$$2-5=g \text{ (finite 7)}$$

$$7+2-5=g \text{ (finite 7)} \checkmark M_1$$

$$9-5=g \text{ (finite 7)} \checkmark$$

$$4=g \text{ (finite 7)} \checkmark A_1$$



24. (a) Find the sum of the value of 6 and the value of 9 in the number 6539 (03 marks)

$$6 \times 1000 = 6,000 \text{ } B_1 \quad 6,000 \text{ } B_1$$

$$9 \times 1 = 9 \text{ } B_1 \quad + \frac{9}{6,009} \text{ } B_1$$

- (b) Work out $1010_{\text{five}} - 344_{\text{five}}$ (02marks)

$$\begin{array}{r} 1010_{\text{five}} \\ - 344 \\ \hline 111_{\text{five}} \end{array} \text{ M1}$$

25. A bus reached Mbarara from Kasese at 3:20pm, if the journey took 100minutes

- (a) Find the time at which the bus left Kasese (03 marks)

$$1h = 60 \text{ min}$$

$$60 \text{ min} = 1h$$

$$1 \text{ min} = \left(\frac{1}{60}\right) h$$

$$100 \text{ min} = \left(\frac{1}{60} \times 100\right) h$$

$$= \frac{5}{3} h$$

$$1 \text{ rem } 2$$

$$\begin{array}{r} 5 \\ 3 \overline{) 5} \\ \underline{3} \\ 2 \end{array}$$

$$= 1 \frac{2}{3} h$$

$$1h, \left(\frac{2}{3} \times 60\right)$$

$$1h, 40 \text{ min } B_1$$

$$\begin{array}{r} 3:20 \\ - 1:40 \\ \hline 1:40 \text{ PM} \end{array} \text{ M1}$$

- (b) If the distance from Kasese to Mbarara is 150km, find the average speed of the bus in metres per seconds

$$1h = 60 \times 60 \text{ (3600s)}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$S = D \div T$$

$$S = 30 \text{ km} \times \frac{3}{h}$$

$$S = 150 \text{ km} \div \frac{5}{3} \text{ h}$$

$$S = 150 \text{ km} \times \frac{3}{5} \text{ h}$$

$$\frac{150 \times 1000 \text{ m}}{60 \times 60 \text{ s}}$$

$$5 \times 5 = 25 \text{ m/s}$$

• 26. (a) Solve $\frac{1}{2}n - 3 = n + 1$ (03 marks)

$$\text{L.C.M.} = 2$$

$$(2x\frac{1}{2}n) - (2x3) = (2xn) + (2x1) \text{ M1}$$

$$n - 6 = 2n + 2 \text{ v}$$

$$n - 2n - 6 = 2n - 2n + 2 \text{ v}$$

$$-n - 6 = 0 + 2 \text{ v}$$

$$-n - 6 + 6 = 2 + 6 \text{ v M1}$$

$$-n + 6 - 6 = 8 \text{ v M1}$$

$$-n = 8 \text{ v}$$

$$\frac{-n}{-1} = \frac{8}{-1} \text{ v}$$

$$n = -8 \text{ v A1}$$

$$\frac{1}{2}n - n = 1 + 3 \text{ v L.C.M. = 2}$$

$$\frac{1}{2}n - \frac{n}{1} = 4 \text{ v}$$

$$\frac{1}{2}n + n - 2xn = 2 \times 4 \text{ v}$$

$$n - 2n = 8 \text{ v M1}$$

$$\frac{-n}{-1} = \frac{8}{-1} \text{ v}$$

$$n = -8 \text{ v A1}$$

(b) Simplify $4g - 7k - 2g + 3k$

$$(02 \text{ marks})$$

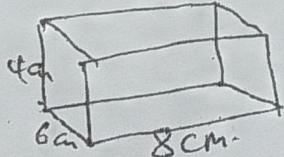
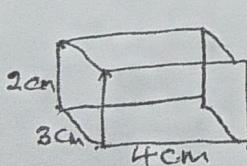
$$4g - 2g + 3k - 7k \text{ M1}$$

$$2g - 4k \text{ v A1}$$

$$3k - 7k + 4g - 2g \text{ v M1}$$

$$-4k + 2g \text{ v A1}$$

27. A cuboid of sides 2cm by 3cm by 4cm has a mass of 2kg. find the mass of a cuboid made by similar materials of sides 4cm by 6cm by 8cm (06 marks)



$$V = l \times w \times h \text{ v}$$

$$V = 4 \text{ cm} \times 3 \text{ cm} \times 2 \text{ cm}$$

$$V = 24 \text{ cm}^3 \text{ v M1}$$

$$V = l \times w \times h$$

$$V = 8 \text{ cm} \times 6 \text{ cm} \times 4 \text{ cm} \text{ M1}$$

$$V = 192 \text{ cm}^3 \text{ v A1}$$

24 cm rep. 2kg

1 cm³ represents $\frac{2}{24}$ kg

$$192 \text{ cm}^3 \text{ rep. } (\frac{1}{24} \times 192) \text{ kg. M1}$$

$$= \frac{16}{6} \text{ kg}$$

$$= 16 \text{ kg. A1}$$

28. The average of 12, g, 7, g+1, g and g-2 is 9.

a) Find the value of g. (03 marks)

$$\begin{aligned} \text{Total} &= 6 \times 9 \\ &= 54 \quad \checkmark \quad B_1 \end{aligned}$$

$$12 + g + 7 + g + 1 + g - 2 + g = 54 \quad M_1$$

$$9 + g + g + g + 12 - 2 + 1 + 1 = 54$$

$$4g + 10 + 8 = 54$$

$$\begin{aligned} 4g + 18 &= 54 \\ 4g + 18 - 18 &= 54 - 18 \end{aligned}$$

$$4g + 10 = 36$$

$$4g = 36$$

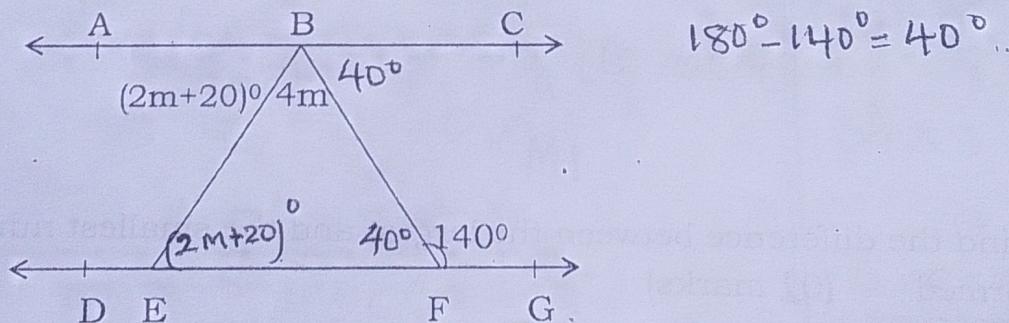
$$\frac{4g}{4} = \frac{36}{4}$$

$$g = 9 \quad A_1$$

(b) Work out the range of the numbers (01 marks)

$$\begin{aligned} 12 \\ g &= 9 \\ g+1 &= 9+1 \\ &= 10 \\ g &= 9 \\ g-2 &= 10-2 \\ &= 8 \end{aligned} \quad \begin{aligned} \text{nos are } 7, 8, 9, 9, 10 \text{ and } 12 \\ \text{range} = \text{Highest} - \text{lowest} \\ \text{range} = 12 - 7 \\ \text{range} = 5 \quad \checkmark \quad B_1 \end{aligned}$$

29. (a) Find the value of m in the diagram below (02 marks)



$$180^\circ - 140^\circ = 40^\circ$$

$$2m+20^\circ + 4m + 40^\circ = 180^\circ \quad M_1$$

$$2m + 4m + 20^\circ + 40^\circ = 180^\circ$$

$$6m + 60^\circ = 180^\circ$$

$$6m + 60^\circ - 60^\circ = 180^\circ - 60^\circ$$

$$6m + 0^\circ = 120^\circ$$

$$\begin{aligned} \cancel{6m} &= \cancel{120^\circ} \\ &\cancel{6} \end{aligned}$$

$$m = 20^\circ \quad A_1$$

$$4m + 2m + 20^\circ = 140^\circ \quad M_1$$

$$4m + 2m + 20^\circ = 140^\circ$$

$$6m + 20^\circ = 140^\circ$$

$$6m + 20^\circ - 20^\circ = 140^\circ - 20^\circ$$

$$6m + 0^\circ = 120^\circ$$

$$\cancel{6m} = \cancel{120^\circ}$$

$$m = 20^\circ \quad A_1$$

b) Find the size of the angle market FEB (02 marked)

$$\begin{aligned}\angle FEB &= 2M + 20^\circ \checkmark \\ \angle EFB &= (2 \times 20) + 20^\circ M1 \\ \angle FEB &= 40^\circ + 20^\circ \\ \angle FEB &= 60^\circ \checkmark A1\end{aligned}$$

30. Given the digits 3, 5, and 0

(a) Form all the four numbers that will be formed using the above digits (04 marks)

- (i) 305 ✓ B1
- (ii) 350 ✓ B1
- (iii) 503 ✓ B1
- (iv) 530 ✓ B1

(b) Find the difference between the largest and the smallest numbers formed (02 marks)

$$\text{Difference} = \text{Highest} - \text{Lowest} \checkmark$$

$$D = 530 - 305 \checkmark M1$$

$$\begin{array}{r} 530 \\ - 305 \\ \hline 225 \end{array} \checkmark A1$$

31. (a) Simplify

$$\frac{1}{2} + \frac{1}{4} \div \frac{3}{8} \times \frac{3}{10} \quad (03 \text{ marks})$$

$$\frac{1}{2} + \frac{1}{4} \times \frac{8}{3} \times \frac{3}{10} \rightarrow M_1$$

$$\frac{1}{2} + \frac{2}{10} = \frac{(5x1) + (1x2)}{10}$$

$$= \frac{5+2}{10} \checkmark M_1$$

$$= \frac{7}{10} \checkmark A_1$$

b) In L.C.1 meeting the ratio of men to woman was 3:5 respectively. 30 women attended the meeting. Find the total number of people who attended the meeting (03 marks)

$$\text{Total ratio} = \frac{m+w}{3+5}$$

$$\text{let } = 8 \checkmark B_1$$

the total no of people be t

$$\frac{5}{8} \times t = 30 \checkmark M_1$$

$$\frac{5t}{8} = 30 \checkmark$$

$$\frac{8 \times 8t}{5 \times 8} = \frac{30 \times 8}{5}$$

$$t = 6 \times 8 \checkmark$$

$$t = 48 \text{ people} \checkmark A_1$$

OR Fraction of women $\frac{5}{8} \checkmark B_1$

$$30 \div \frac{5}{8} \checkmark M_1$$

$$\frac{30 \times 8}{5}$$

$$6 \times 8 = 48 \checkmark A_1$$

$$\text{Total parts} = 3+5 = 8 \checkmark$$

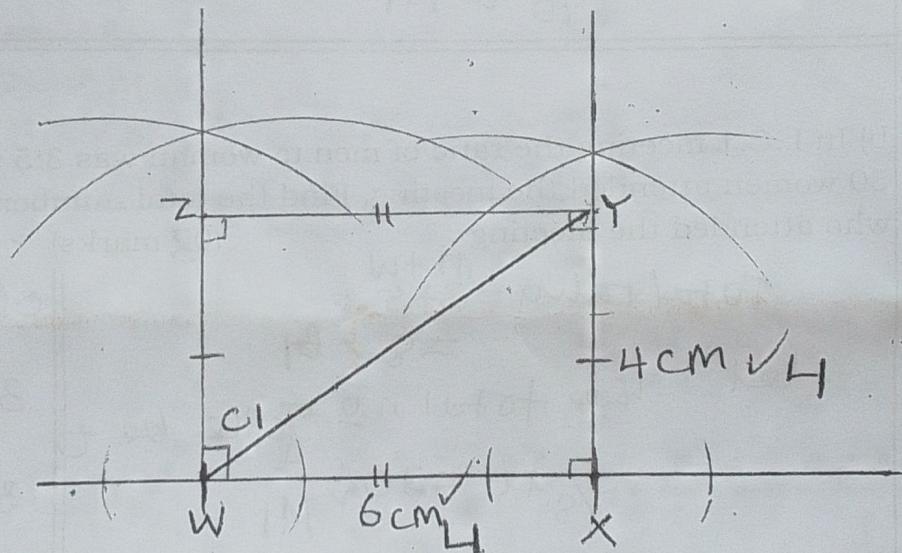
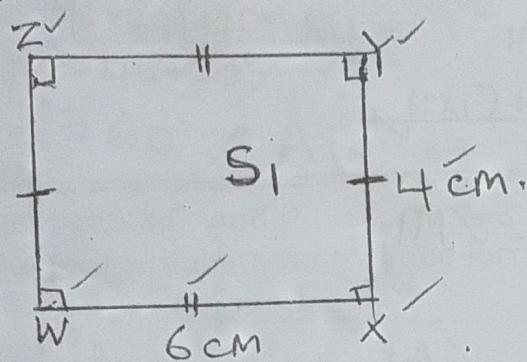
$$5 \text{ parts rep. } 30 \checkmark B_1$$

$$1 \text{ part rep. } \frac{30}{5} \checkmark$$

$$8 \text{ parts rep. } \frac{30}{5} \times 8 \checkmark M_1$$

$$6 \times 8 = 48 \checkmark A_1$$

32. Using a pair of compasses, a ruler and a pencil only construct a quadrilateral ZWXY such that $WX=6\text{cm}$, $YX=4\text{cm}$ and angle $W=90^\circ$ (04 marks)



(b) Measure angle YWX (01 marks)

$$\angle YWX = 34^\circ / 35^\circ / 36^\circ \checkmark B |$$

****END****