

# MARKING GUIDE PRE MOCK SET 1

①  $37 - 16$

$$= 37$$

$$\frac{-16}{\underline{21}}$$

② Thousands | Units  
600 | 304

Six hundred thousand  
three hundred four

⑨

③  $(C_P + 8P) - 9P$

$$= 14P - 9P$$

$$= 5P$$

④ Let the complement be  $K$  ⑩

$$K + C_P - 10^\circ = 90^\circ$$

$$K = 90^\circ - (P - 10)^\circ$$

$$= 90^\circ - P^\circ + 10^\circ$$

$$K = 90^\circ + 10^\circ - P^\circ$$

$$K = 100^\circ - P^\circ$$

$$K = (100 - P)^\circ$$

⑤ 6 books  $\rightarrow$  sh. 36000  
1 book  $\rightarrow$  sh. 36000

$$= \text{sh. } 6000$$

$$2 | 20 | 25$$

$$\text{sh. } 48000 \rightarrow \left[ \begin{array}{c} \text{sh. } 48000 \\ \text{sh. } 48000 \end{array} \right] \text{ books}$$

$$= 8 \text{ books.}$$

⑥  $P = \{a, e, i, o, u\}$   
 $n(P) = 5$

proper subset =  $2^n - 1$

$$= 2^5 - 1$$

$$= (2 \times 2 \times 2 \times 2 \times 2) - 1$$

$$= 32 - 1$$

$$= \underline{31 \text{ proper subsets.}}$$

$$\text{⑦ } \frac{7}{9} = \frac{c+4}{9}$$

$$2 \times 4 \quad 3 \times 9$$

$$2 \times 2 \quad 3 \times 3$$

$$2 \times 3 \quad 1$$

$$2 \times 4$$

$$\sqrt{\frac{64}{9}} = \sqrt{(2 \times 2) \times (2 \times 2)} \times \frac{8}{3}$$

$$= \sqrt{16 \times 3} = \frac{8}{3}$$

$$= 2 \times 2 \times 2 = \underline{2^2}$$

⑧ 1, 3, 6, 10, ..., —  
(Triangular numbers)

$$1+2 = 3 \quad \text{Sum}$$

$$3+3 = 6 \quad 15$$

$$6+4 = 10 \quad \frac{12}{36}$$

$$10+5 = 15 \quad 15+6 = 21 \quad \text{Sum} = 36$$

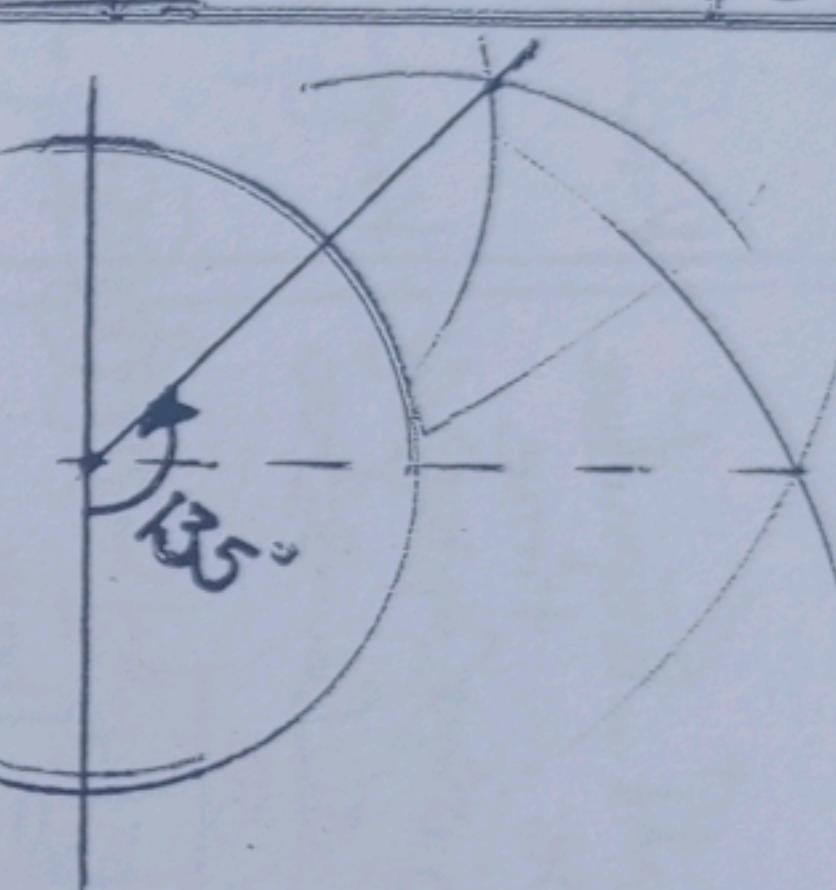
⑭  $34^\circ \text{ fine} = (3 \times 5) + (4 \times 5)$

$$= 15 + 4$$

$$= \frac{19}{40}$$

$$\frac{2}{2} \quad \frac{9}{4} \quad \frac{1}{10}$$

⑮  $19_{\text{ten}} = 10011_{\text{two}}$



$$P = C + d$$

$$= \frac{1}{2} \pi d + d$$

$$= \frac{1}{4} \pi r^2 + 28 \text{ cm}$$

$$= 44.5 + 28 \text{ cm}$$

$$P = 72 \text{ cm}$$

⑩ 10 litres  $\rightarrow$   $(10 \div 0.25)$  bottles.

$$= \left( \frac{10}{0.25} \right) \text{ bottles}$$

$$= \left( \frac{10}{\frac{1}{4}} \right) \text{ bottles}$$

$$= 40 \text{ bottles}$$

⑪ Total shade  $= \left( \frac{2 \times \frac{1}{4} \pi}{4} \times 10 \right) \text{ parts}$

$$= 10 \text{ parts.}$$

$$= 2 \text{ parts.}$$

$$K = 18^\circ$$

$$= \text{sh. } 96,000$$

$$= \text{sh. } 6000$$

$$= \text{sh. } 36000$$

$$= \text{sh. } 12000$$

$$= \text{sh. } 48000$$

$$= \text{sh. } 24000$$

$$= \text{sh. } 12000$$

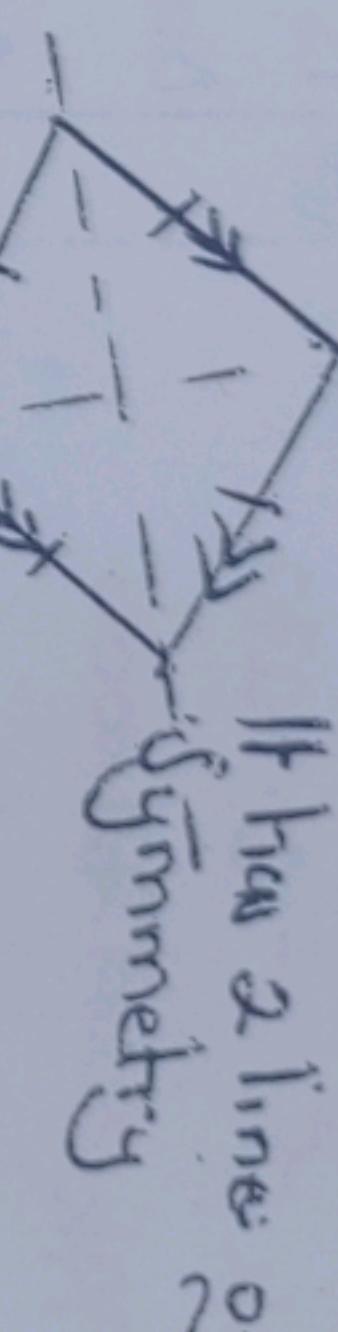
$$= \text{sh. } 6000$$

⑯  $34^\circ \text{ fine} = (3 \times 5) + (4 \times 5)$

$$= 15 + 4$$

$$= \frac{19}{40}$$

$$\frac{2}{2} \quad \frac{9}{4} \quad \frac{1}{10}$$



⑰  $20\% \text{ increase} = [100\% + 20\%] = 120\%$

$$\text{New salary} = \frac{120}{100} \times \text{sh. } 80,000$$

$$= \text{sh. } 96,000$$

$$3k + 2k + 90^\circ = 180^\circ$$

$$5k + 90^\circ = 180^\circ$$

$$5k + 90^\circ - 90^\circ = 180^\circ - 90^\circ$$

$$5k = 90^\circ$$

$$k = \frac{90^\circ}{5}$$

$$= 18^\circ$$

$$= 10 \text{ parts.}$$

$$= 10 \times 18^\circ$$

$$= 180^\circ$$

⑫  $a = (3 \times 2)$   
 $a = 6$

$$a^2 + b^2 = (ax-a) + (bx-b)$$

$$= (C \times a) + (C \times b)$$

$$= 36 + 4$$

$$= 40$$

$$= 600,$$

$$= 12000$$

$$= 24000$$

$$= 48000$$

$$= 12000$$

$$= 6000$$

$$= 3000$$

$$= 1500$$

$$= 1000$$

$$= 500$$

$$= 250$$

$$= 125$$

$$= 62.5$$

$$= 31.25$$

$$= 15.625$$

$$= 7.8125$$

$$= 3.90625$$

$$= 1.953125$$

$$= 0.9765625$$

$$= 0.48828125$$

$$= 0.244140625$$

$$= 0.1220703125$$

$$= 7.8125$$

$$= 3.90625$$

$$= 1.953125$$

$$= 0.9765625$$

$$= 0.48828125$$

$$= 0.244140625$$

$$= 0.1220703125$$

$$= 0.06103515625$$

$$= 0.030517578125$$

$$= 0.0152587890625$$

$$= 0.00762939453125$$

$$= 7.8125$$

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$$= 0.48828125$$

$$= 0.244140625$$

$$= 0.1220703125$$

$$= 0.06103515625$$

$$= 0.030517578125$$

$$= 0.0152587890625$$

$$= 0.00762939453125$$

$$= 0.003814697265625$$

$$= 0.0019073486328125$$

(b) let the fraction be  $K$

$$K = 0.7272 \dots \text{--- (1)}$$

Multiply (1) by 100

$$100K = 100 \times 0.7272$$

$$100K = 72.7272 \dots \text{--- (1)}$$

Subtract (1) - (1)

$$\begin{aligned} 100K &= 72.7272 \dots \\ -K &= -0.7272 \end{aligned}$$

$$\frac{99K}{99} = \frac{-72}{-99}$$

$$K = \frac{8}{11}$$

$$\text{② Rent} = \frac{1}{3}$$

$$\text{remainder} = \left[ \frac{1}{1} - \frac{1}{3} = \frac{2}{3} \right]$$

$$\text{Transport} = \left[ \frac{1}{2} \times \frac{2}{3} = \frac{1}{2} \times \frac{2}{3} \right]$$

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

$$\text{Rent + transport} = \left[ \frac{1}{3} + \frac{1}{9} = \frac{4}{9} \right]$$

$$3y+1 = y+9$$

$$\text{Saving} = \left[ \frac{1}{1} - \frac{4}{9} = \frac{5}{9} \right]$$

$$\text{Let the income be } K$$

$$\frac{5}{9} \text{ of } K = \text{sh. } 15,000$$

$$\frac{5}{9} \times \frac{5}{9} K = [\text{sh. } 15,000 \times \frac{5}{9}]$$

$$\frac{5}{5} K = \text{sh. } 27,000$$

∴ His income is sh. 27,000.

$$(c) \text{Area} = \frac{1}{2} \times b \times h$$

$$= \left( \frac{1}{2} \times 12\text{cm} \times 12\text{cm} \right)$$

$$\begin{aligned} 1\text{km} &= 1000\text{m} \\ 1\text{hour} &= 3600\text{seconds} \\ \text{Speed} &= \left( \frac{\text{Speed} \times 1000}{3600} \right) \text{m/s} \\ &= 60\text{cm}^2 \end{aligned}$$

$$\text{Total ratio} = (2+3+4) = 9$$

$$\text{Kite} = \left[ \frac{2}{9} \times \text{sh. } 270,000 \right] = \text{sh. } 60,000$$

$$\text{Kite} = \left[ \frac{3}{9} \times \text{sh. } 270,000 \right] = \text{sh. } 90,000$$

$$\text{Kite} = \left[ \frac{4}{9} \times \text{sh. } 270,000 \right] = \text{sh. } 120,000$$

$$\text{Kite} = \left[ \frac{2}{9} \times \text{sh. } 270,000 \right] = \text{sh. } 60,000 \text{ more.}$$

$$\text{Kite} = \left[ \frac{3}{9} \right] = \frac{1}{3}$$

$$\text{Kite} - \text{kite} = (4-2) = 2$$

$$= \left[ \frac{2}{9} \times \text{sh. } 270,000 \right] \text{more}$$

$$\text{Kite} = \left[ \frac{2}{9} \right] = \frac{1}{3}$$

$$\text{Distance} = 60\text{km/h} \times 2\frac{1}{2} \text{ hours}$$

$$= (60 \times 5) \frac{\text{km}}{\text{h}}$$

$$\text{Distance} = 150\text{km}$$

$$\text{Side } BA = \text{side } AC$$

$$(3y+1)\text{cm} = (y+9)\text{cm}$$

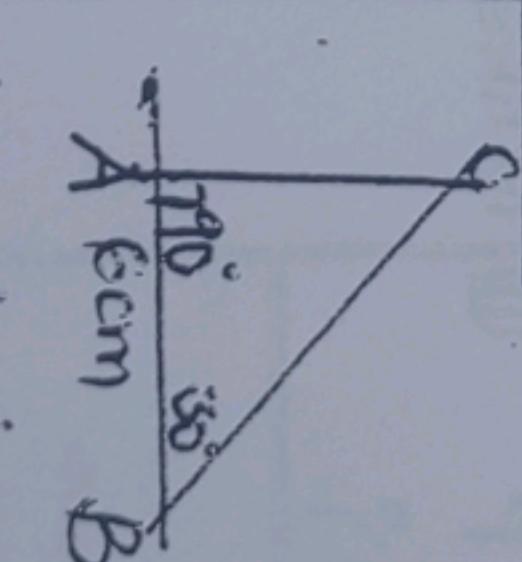
$$3y+1 = y+9$$

$$3y-y+1 = 9-1$$

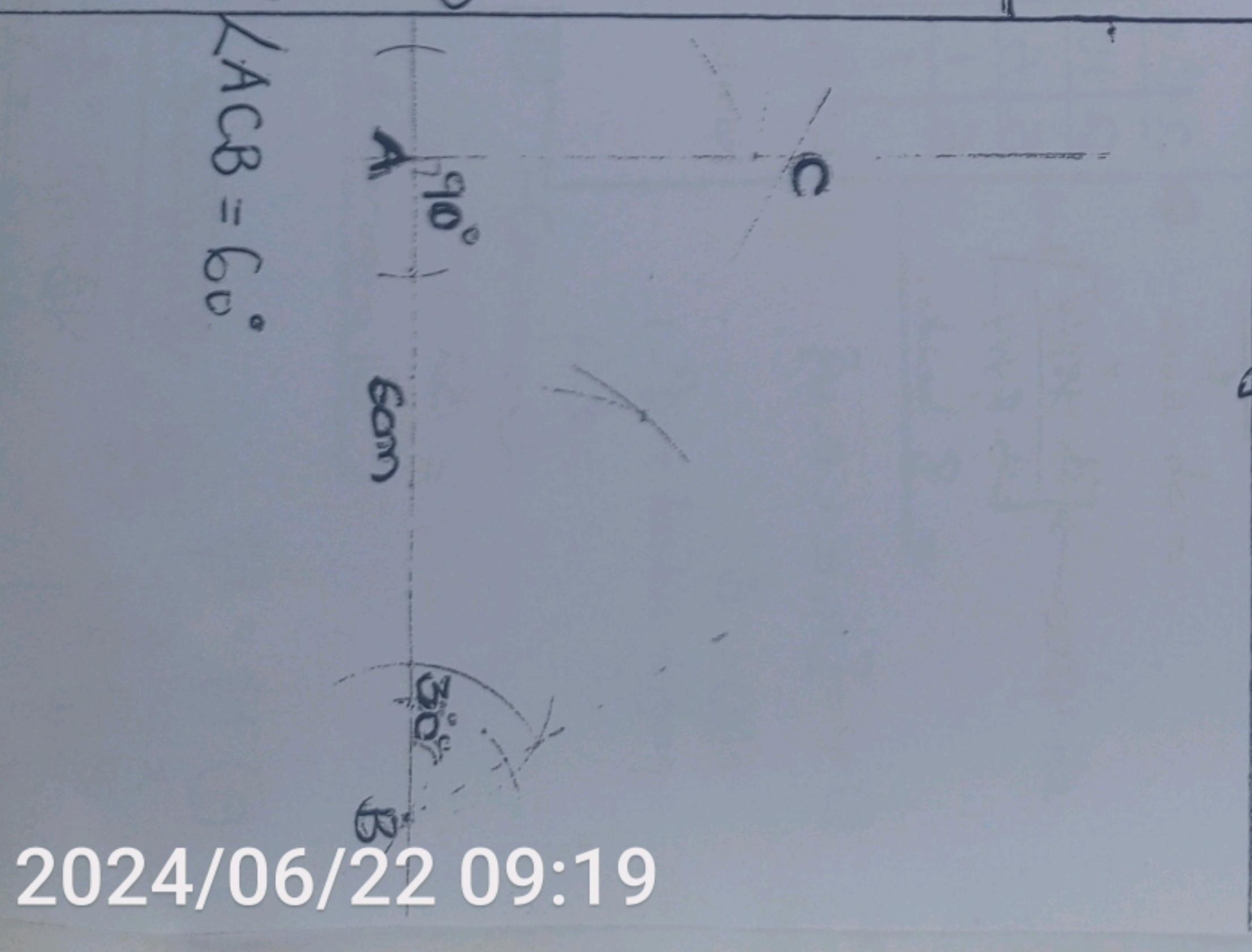
$$\frac{2y}{2} = \frac{8}{2}$$

$$y = 4$$

sketch



Accurate triangle



# ONE MOCK SET 1

$$(b) 3 - 2y \leq -5$$

$$\begin{aligned} & [9 \div 8] - [7 \div 8] \\ & = [79 - 7] \div 8 \\ & = 72 \div 8 \\ & = 9 \end{aligned}$$

$$-2y + 3 \leq -5$$

$$-2y + 3 \leq -5 - 3$$

$$-2y + 0 \leq -8$$

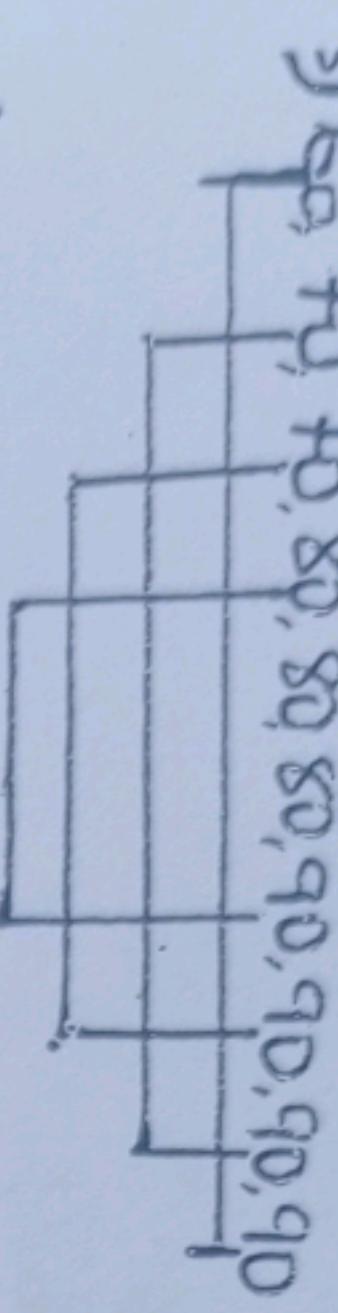
$$\begin{aligned} 10.000207 \times 10 &= 0.000207 \times 10^4 \\ 0.000207 \times 10 &= 0.00207 \times 10^3 \\ 0.00207 \times 10 &= 0.207 \times 10^2 \end{aligned}$$

$$0.207 \times 10 = 2.07 \times 10^4$$

$$\frac{t_2 - t_1}{t_1} \geq \frac{t_2 - t_1}{t_1}$$

$$2\frac{1}{2} \text{ hours} \rightarrow 2 + \frac{1}{4} \times 60 = 2\frac{1}{2} \text{ hours}$$

$$10.000207 \times 10^4 = 0.000207 \times 10^4$$



$$\text{Median} = \frac{80 + 80}{2}$$

$$= \frac{160}{2}$$

∴ 80 marks.

$$) \text{ mean} = \frac{\text{sum of data}}{\text{No. of data}}$$

$$\begin{aligned} & [(50 \times 3) + (60 \times 2) + (70 \times 4) + (80 \times 1)] \\ & 3 + 2 + 4 + 1 \end{aligned}$$

$$= \frac{240 + 140 + 360 + 80}{10}$$

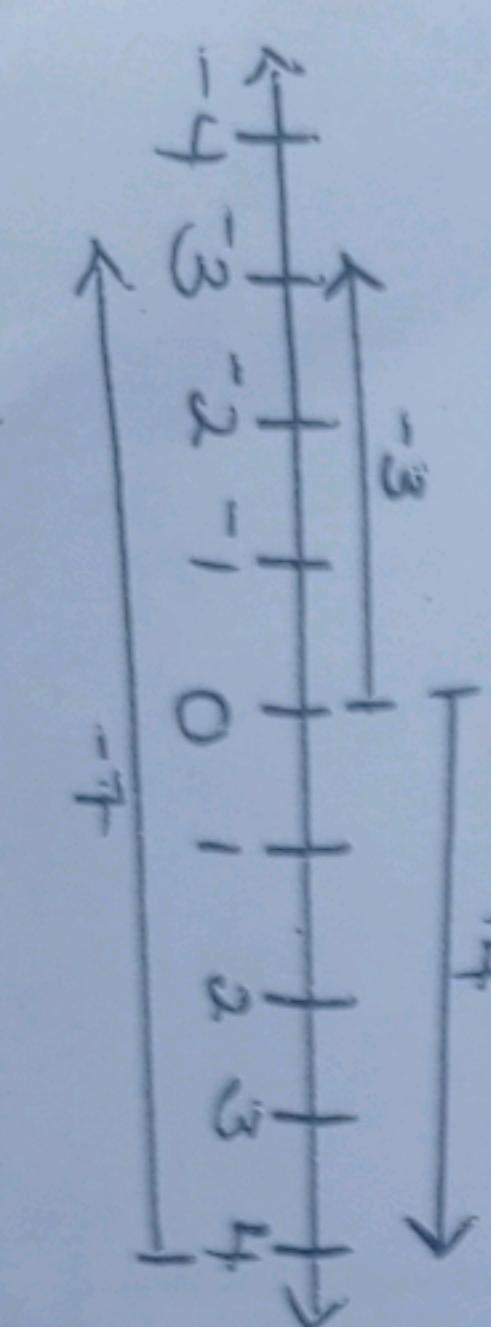
$$= \frac{800}{10}$$

$$= 80 \text{ marks.}$$

$$\text{Above mean } \boxed{\frac{90}{4}}$$

Number = 4 boys.

$$\boxed{-3 - 4}$$



$$-3 - 4 = -7$$

$$\begin{aligned} 3 & 15 & 25 \\ 5 & 5 & 5 \\ 5 & 1 & 5 \\ 1 & 1 & \text{Duration} = \frac{5}{44} = \frac{5}{2} \end{aligned}$$

$$2 \text{ hours} \rightarrow 2 + \frac{1}{4} \times 60 = 2\frac{1}{2} \text{ hours}$$

$$11:40 \quad 70 : 60 = 1:10$$

$$14:10 \quad = 2 \text{ hours 30 minutes}$$

$$14:10 \quad 10:00 \text{ hours}$$

$$10:10 \quad 10:00 \text{ P.M}$$

$$\begin{aligned} \text{They will ring together again} \\ \text{at 2:10 P.M.} \end{aligned}$$

$$\text{Rice}(3kg) = [3 \times sh. 4000]$$

$$= sh. 12,000$$

$$\text{Pasta } \frac{7.50}{1000} = \frac{3}{4} = \frac{3}{4} \times sh. 2000$$

$$= sh. 2400$$

$$\text{Mangos}(15) = \frac{18 \times sh. 1500}{2}$$

$$= sh. 4500$$

$$\text{Total bill} = sh. [9000 + 12000 + 2400 + 4500]$$

$$= sh. 27,900$$

$$\text{Market price} = 100\%$$

$$\text{Discount} = 10\%$$

$$\text{Cash price} = 100\% - 10\%$$

$$= 90\%$$

$$\text{Cash price} = \frac{90}{100} \times sh. 27,900$$

$$= sh. 25,110$$

