

Exercise 6.2

1.

a) In $\triangle ABC$ $DE \parallel BC$

$$\therefore \frac{AD}{DB} = \frac{AE}{EC} \quad [\text{By basic proportionality theorem}]$$

$$\Rightarrow \frac{1.5}{3.2} = \frac{1}{EC}$$

$$= \frac{1}{2} = \frac{1}{EC}$$

$$\Rightarrow EC = 2 \text{ cm}$$

b) In $\triangle ABC$ $AE \parallel BC$

$$\therefore \frac{AD}{DB} = \frac{AE}{EC} \quad [\text{By basic proportionality theorem}]$$

$$\frac{AD}{7.2 \text{ cm}} = \frac{1.8 \text{ cm}}{5.8 \text{ cm}}$$

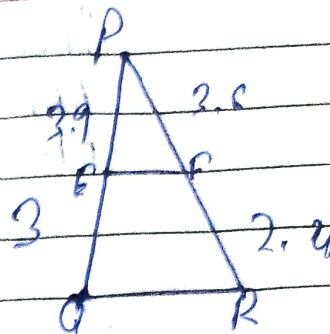
$$\frac{AD}{7.2} = \frac{29}{9}$$

$$AD = \frac{29}{9} \times 7.2$$

$$AD = 22.2 \text{ cm}$$

2

In $\triangle PQR$ $PE \parallel ER$ and $PF \parallel FR$.



$$\frac{PE}{EQ} = \frac{PF}{FR}$$

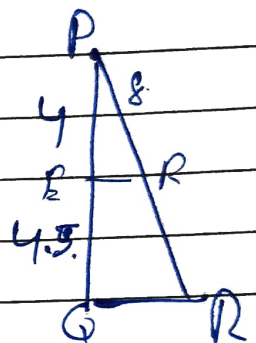
$$\frac{3.9}{3} = \frac{2.5}{2.4}$$

$$1.3 \neq \frac{3}{2}$$

It is not parallel.

(c) $PE = \frac{4}{4.5} \cdot \frac{40}{4.5} = \frac{8}{9}$

and $\frac{PE}{FR} = \frac{8}{9}$ $BF \parallel OR$



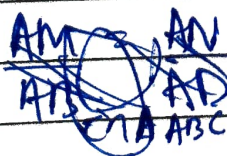
(c) $PE = \frac{0.18}{1.28 - 0.18} = \frac{0.18}{1.10} = \frac{9}{55}$

cond $\frac{PE}{FR} = \frac{0.36}{2.56 - 0.36} = \frac{0.36}{2.20} = \frac{9}{55}$

Since $\frac{PE}{PQ} = \frac{PF}{PR}$; $BF \parallel QR$

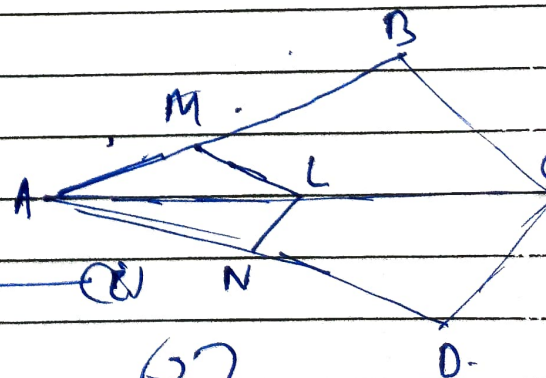
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(1)



$\frac{AM}{AB} = \frac{AN}{AC}$

and $\frac{AN}{AD} = \frac{AL}{AC}$



From eg. (1) and eg. (2) proved that

$$\frac{AM}{AB} = \frac{AM}{AD}$$

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Page _____