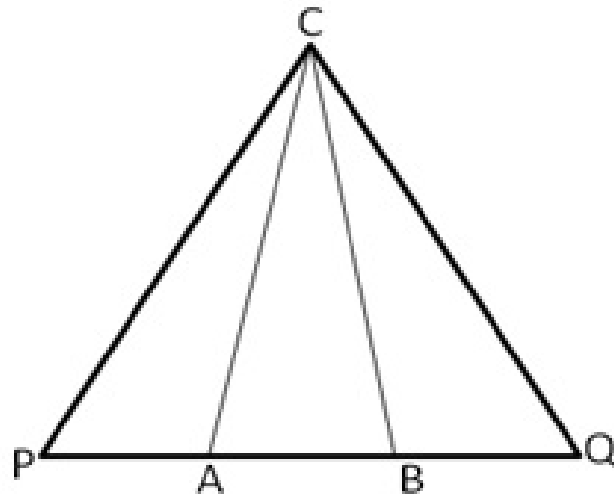




Exercise 4B

Question 13:



In $\triangle ACP$ and $\triangle BCQ$

$$CA = CB$$

$$\angle CAB = \angle CBA$$

$$\Rightarrow 180^\circ - \angle CAB = 180^\circ - \angle CBA$$

$$\Rightarrow \angle CAP = \angle CBQ$$

$$\text{Now, } AP \times BQ = AC^2$$

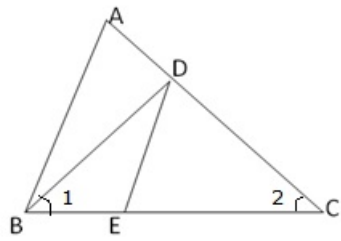
$$\Rightarrow \frac{AP}{AC} = \frac{AC}{BQ}$$

$$\Rightarrow \frac{AP}{AC} = \frac{BC}{BQ}$$

$$\text{Thus, } \angle CAP = \angle CBQ \text{ and } \frac{AP}{AC} = \frac{BC}{BQ}$$

$$\therefore \triangle ACP \sim \triangle BCQ$$

Question 14:



$$\angle 1 = \angle 2 \quad \text{(given)}$$

$$\frac{AC}{BD} = \frac{CB}{CE} \quad \Rightarrow \quad \frac{AC}{CB} = \frac{BD}{CE} \quad \text{(given)}$$

Also, $\angle 2 = \angle 1$

Thus, $\frac{AC}{CB} = \frac{BD}{CE}$

and $\angle 2 = \angle 1$

Therefore, by SAS similarity criterion $\triangle ACB \sim \triangle DCE$

***** END *****