Exercise 4B

Question 1:

(i) In $\triangle ABC$ and $\triangle PQR$

$\angle A = \angle Q = 50°$

$\angle B = \angle P = 60°$

$\angle C = \angle R = 70°$

$\therefore \triangle ABC \sim \triangle QPR$ (by AAA similarity)

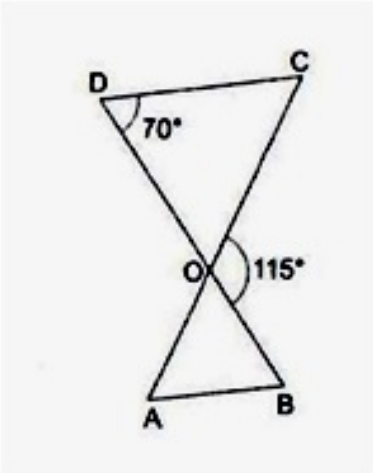
(ii) In $\triangle ABC$ and $\triangle EFD$

$\angle A = \angle D = 70°$

SAS: Similarity condition is not satisfied as $\angle A$ and $\angle D$ are not included angles.

(iii) $\triangle CAB \sim \triangle QRP$ (SAS Similarity)

Question 2:



$\Delta ODC \sim \Delta OBC$

$\angle BOC = 115$

$\angle CDO = 70$

(i) $DOC = (180 - \angle BOC)$

$= (180 - 115)$

$= 65$

(ii) $\angle OCD = 180 - \angle CDO - \angle DOC$

$\angle OCD = 180 - (70 + 65)$

$= 45$

(iii) Now, $\Delta ABO \sim \Delta ODC$

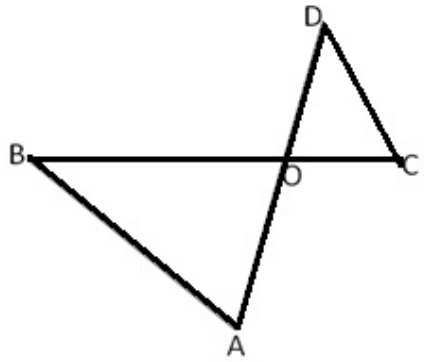
$\angle AOB = COD$ (vert. Opp s) $= 65$

$\angle OAB = \angle OCD = 45$

$\angle OBA = \angle ODC$(alternate angles) $= 70$

So, $\angle OAB = 45$ and $\angle OBA = 70$

Question 3:



Given: $\Delta OAB \sim \Delta OCD$

AB = 8 cm, BO = 6.4 cm, CD = 5 cm, OC = 3.5 cm

$$\Rightarrow \frac{OA}{OC} = \frac{AB}{CD} = \frac{BO}{DO}$$

$$\Rightarrow \frac{OA}{3.5} = \frac{8}{5} = \frac{6.4}{DO}$$

$$\Rightarrow \frac{OA}{3.5} = \frac{8}{5} \text{ and } \frac{6.4}{DO} = \frac{8}{5}$$

$$OA = \frac{3.5 \times 8}{5} = 5.6$$

$$\text{and } DO = \frac{6.4 \times 5}{8} = 4$$

OA = 5.6cm and DO = 4 cm

********** END **********