

Exercise 4B

Question 1:

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

$$\angle A = \angle Q = 50^{\circ}$$

$$\angle$$
B = \angle P = 60°

$$\angle$$
C = \angle R = 70°

$$\triangle$$
ABC ~ \triangle QPR (by AAA similarity)

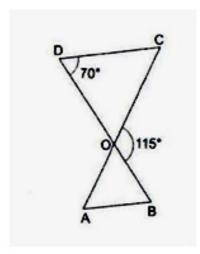
(ii) In
$$\triangle$$
ABC and \triangle EFD

$$\angle A = \angle D = 70^{\circ}$$

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:



$$_{(i)}$$
 DOC = (180 - \angle BOC)

$$= (180 - 115)$$

$$= 65$$

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

(iii) Now, ΔABO ~ ΔODC

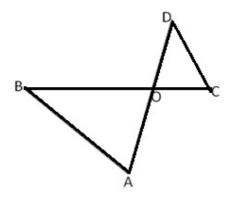
$$\angle AOB = COD (vert. Opp s) = 65$$

$$\angle OAB = \angle OCD = 45$$

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

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

Question 3:



Given: $\Delta \text{OAB} \sim \Delta \text{OCD}$

$$AB = 8 \text{ cm}, BO = 6.4 \text{ cm}, CD = 5 \text{ cm}, OC = 3.5 \text{ cm}$$

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

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

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

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

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

$$OA = 5.6 cm$$
 and $DO = 4 cm$

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