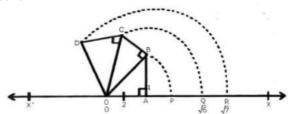


Exercise 1C

Question 4:



Draw horizontal line X'OX taken as the x-axis

Take O as the origin to represent 0.

Let OA = 2 units and let $AB \perp OA$ such that AB = 1 units Join OB. Then,

OB =
$$\sqrt{QA^2 + AB^2}$$

= $\sqrt{2^2 + 1^2} = \sqrt{5}$

With O as centre and OB as radius draw an arc meeting OX at P.

Then, OP = OB =
$$\sqrt{5}$$

Now draw BC ⊥ OB and set off BC = 1 unit

Join OC. Then,

$$OC = \sqrt{OB^2 + BC^2}$$

$$=\sqrt{(\sqrt{5})^2+1^2}=\sqrt{6}$$

With O as centre and OC as radius, draw an arc, meeting OX at Q.

Then, OQ = OC =
$$\sqrt{6}$$

Thus, Q represents $\sqrt{6}$ on the real line.

Now, draw CD ⊥ OC as set off CD = 1 units

Join OD. Then,

OD =
$$\sqrt{OC^2 + CD^2}$$

= $\sqrt{(\sqrt{6})^2 + 1^2} = \sqrt{7}$

With O as centre and OD as radius, draw an arc, meeting OX at R. Then

$$OR = OD = \sqrt{7}$$

Thus, R represents $\sqrt{7}$ on the real line.

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