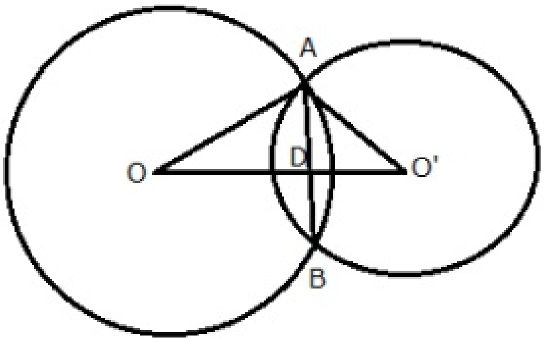
Exercise 11A

Question 11:

If possible let two different circles intersect at three distinct point A, B and C.

Then, these points are noncollinear. So a unique circle can be drawn to pass through these points. This is a contradiction.

Question 12:



$OA = 10\text{cm} \quad \text{and } AB = 12 \text{ cm}$

$\therefore \quad AD = \frac{1}{2} \times AB$

$AD = \left(\frac{1}{2} \times 12\right) \text{cm} = 6 \text{ cm}$

Now in right angled ΔADO,

$$OA^2 = AD^2 + OD^2$$

$$\Rightarrow \quad OD^2 = OA^2 - AD^2$$

$$= 10^2 - 6^2$$

$$= 100 - 36 = 64$$

$$\therefore \quad OD = \sqrt{64} = 8 \text{ cm}$$

Again, we have $O'A = 8$ cm.

In right angle $\Delta ADO'$

$$O'A^2 = AD^2 + O'D^2$$

$$\Rightarrow \quad O'D^2 = O'A^2 - AD^2$$

$$= 8^2 - 6^2$$

$$= 64 - 36 = 28$$

$$O'D = \sqrt{28} = 2\sqrt{7} \text{ cm}$$

$$\therefore \quad OO' = (OD + O'D)$$

$$= (8 + 2\sqrt{7}) \text{ cm}$$

$\therefore$ the distance between their centres is $(8 + 2\sqrt{7})$ cm.

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