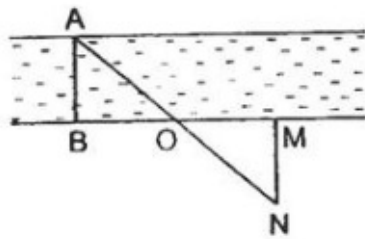




### Exercise 5A

Question 33:

Let AB be the breadth of a river. Now take a point M on that bank of the river where point B is situated. Through M draw a perpendicular and take point N on it such that point, A, O and N lie on a straight line where point O is the mid point of BM.



Now in  $\triangle ABO$  and  $\triangle NMO$  we have,

$$\angle OBA = \angle OMN = 90^\circ$$

$$OB = OM$$

[ $\therefore$  O is mid point of BM]

and  $\angle BOA = \angle MON$

[Vertically opposite angles]

Thus, by Angle - Side - Angle criterion of congruence, we have,

$$\triangle ABO \cong \triangle NMO$$

[By ASA]

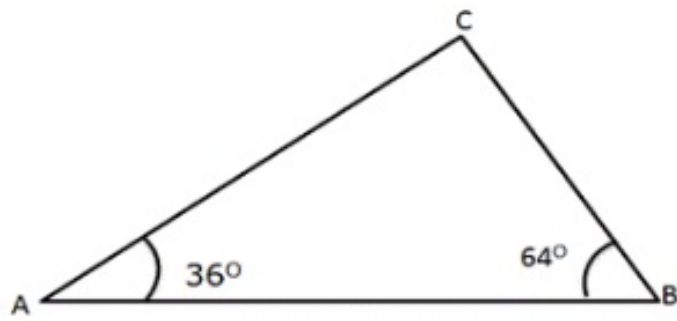
The corresponding parts of the congruent triangles are equal.

$$\therefore AB = NM$$

[C.P.C.T]

Thus, we find that MN is the width of the river.

Question 34



We have  $\angle A = 36^\circ$  and  $\angle B = 64^\circ$

By the angle sum property in  $\triangle ABC$ , we have

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\Rightarrow 36^\circ + 64^\circ + \angle C = 180^\circ$$

$$\Rightarrow \angle C = 180^\circ - 100^\circ = 80^\circ$$

Therefore, we have

$$\angle A = 36^\circ, \angle B = 64^\circ \text{ and } \angle C = 80^\circ$$

$\therefore \angle C$  is largest and  $\angle A$  is shortest.

Side opposite to  $\angle C$  is longest and hence  $AB$  is longest side.

Side opposite to  $\angle A$  is shortest and hence  $BC$  is shortest side.

Question 35:

In a right angle triangle, greatest angle is  $\angle A = 90^\circ$ .

And hence other angles are less than  $90^\circ$  because sum of the angles of a triangle is  $180^\circ$ .

So,  $\angle A$  is the greatest angle.

Therefore, side  $BC$  which is opposite to  $\angle A$  is longest.

\*\*\*\*\* END \*\*\*\*\*