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(Affiliated to CBSE up to +2 Level)

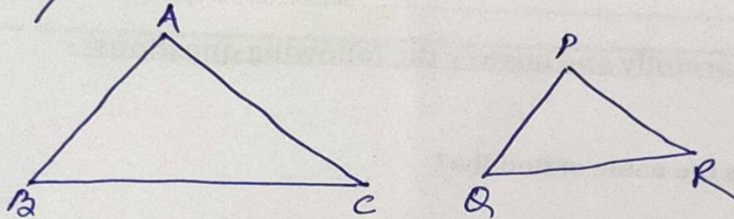
CLASS: X

SUB.: MATHS (NCERT BASED)

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A-A-Similarity Corollary

If two angles of one triangle are respectively equal to two angles of another triangle, then the two triangles are similar.



Given:- $\triangle ABC$ and $\triangle PQR$, $\angle A = \angle P$, $\angle B = \angle Q$

To Prove:- $\triangle ABC \sim \triangle PQR$

Proof $\triangle ABC$,
 $\angle A + \angle B + \angle C = 180^\circ$ (properties of \triangle s) ①

$\triangle PQR$
 $\angle P + \angle Q + \angle R = 180^\circ$ (properties of \triangle s)
 $\angle A + \angle B + \angle C = 180^\circ$ ②

from eqn ① and ②

$$\angle A + \angle B + \angle C = \angle A + \angle B + \angle R$$
$$\angle C = \angle R$$

Now $\triangle ABC$ and $\triangle PQR$

$$\angle A = \angle P \quad \left. \begin{array}{l} \angle B = \angle Q \\ \angle C = \angle R \end{array} \right\} \text{Given}$$

$$\angle C = \angle R \quad (\text{above proved})$$

$\triangle ABC \sim \triangle PQR$ (By A-A-A)
Proved