

⑥  
cont.

From ① and ②

$$\angle A + \angle C = \angle A + \angle 1$$

$$\Rightarrow \angle C = \angle 1 \dots \text{③}$$

$$\angle 1 = \angle 3 \dots \text{④} \quad (\text{angles in alternate seg.})$$

$$\angle 3 = \angle 4 \dots \text{⑤} \quad (\text{vert. opp. angles})$$

From ③, ④, ⑤

$$\angle C = \angle 4$$

$$\Rightarrow MP = MC$$

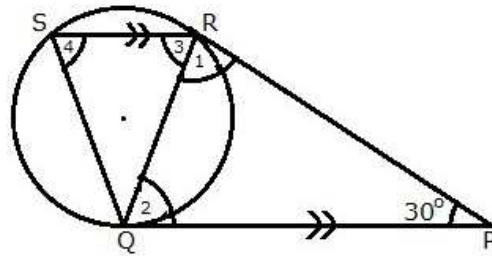
$$\text{But } MP = MB$$

(converse of isosceles)  
 $\Delta$  prop  
 (tangents from same external point)

$$MB = MC$$

$\therefore l$  bisects BC

⑦



given - In fig.  $\angle RPO = 30^\circ$ ,  $RS \parallel RP$

to find -  $\angle RQS$  NCERT Exemplar Solutions by Dev Anoop (Bathinda)

sol. In  $\Delta PQR$   
 $PQ = PR$  (tangents from same external point)

$$\angle 1 = \angle 2 \dots \text{①} \quad (\text{isosceles } \Delta \text{ property})$$

$$\angle 1 + \angle 2 + \angle RPO = 180^\circ \quad [\text{angle sum prop. of } \Delta]$$

$$\angle 1 + \angle 1 + \angle RPO = 180^\circ \quad (\text{using i})$$

$$2\angle 1 = 180^\circ - 30^\circ$$

$$\Rightarrow \angle 1 = \frac{150}{2}$$

$$\therefore \angle 1 = \angle 2 = 75^\circ$$