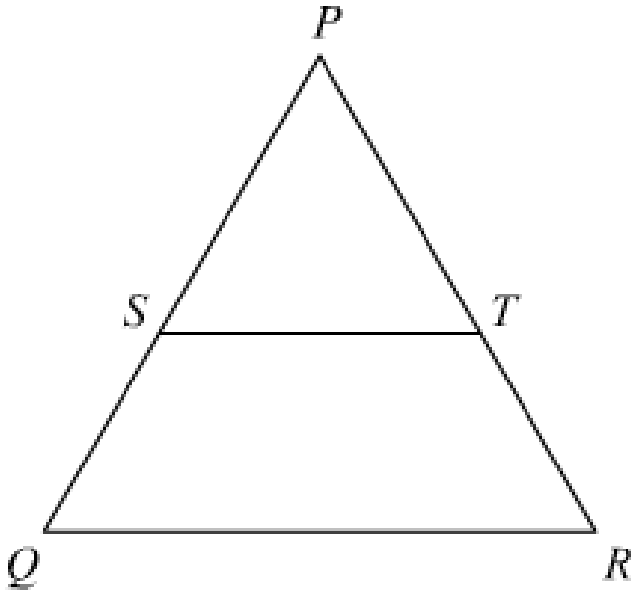
Congruent Triangles Ex 10.3 Q4

Answer :

It is given that

$PQ = \mathrm{P}\,R$



We have to prove $PT = PS$

In ΔPQR we have

$PQ = \mathrm{P}\,R$ (Given)

So, $\angle R = \angle Q$

Now $ST \parallel QR$ (Given)

Since corresponding angle are equal, so

$$\angle PST = \angle PQR$$

$$\angle PTS = \angle PRQ$$

That is,

$$\angle PTS = \angle Q$$

$$\angle PTS = \angle R$$

$$\Rightarrow \angle PST = \angle PTS$$

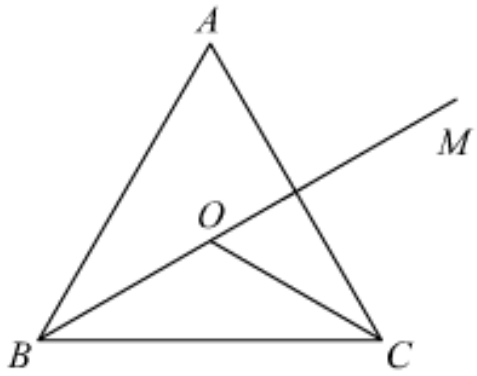
Hence $\boxed{PT = PS}$ proved.

Congruent Triangles Ex 10.3 Q5

Answer :

It is given that

In ΔABC, $AB = AC$



We have to prove that $\angle MOC = \angle ABC$

Now

$AB = AC$ (Given)

$$\angle C = \angle B$$

$$\frac{1}{2}\angle C = \frac{1}{2}\angle B$$

Thus

$\angle OCB = \angle OBC$ .....(1)

In ΔOBC, we have

$\angle MOC = \angle OBC + \angle OCB$

So, $\angle MOC = \angle OBC + \angle OBC$ {from equation (1)}

$$\angle MOC = 2\angle OBC$$

$$\boxed{\angle MOC = \angle ABC}$$

Hence Proved.

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