ASSIGNMENT 1

BT21BTECH11007 - SRIJAN

PROBLEM:- PQR is a triangle. S is a point on the side QR of PQR such that $\angle PSR = \angle QPR$.
Given QP = 8 cm, PR = 6 cm and SR = 3 cm
(i) Prove $\Delta PQR \sim \Delta SPR$
(ii) Find the length of QR and PS
(iii) $\frac{\Delta PQR}{\Delta SPR}$

SOLUTION:-
given
(i) In PQR and SPR
$\angle PSR = \angle QPR$.
$\angle r$is common to both
3rd angles are equal therefore $\Delta PQR \sim \Delta SPR$

Hence sides are proportional.

(ii) $\frac{QR}{PR} = \frac{PQ}{PS} = \frac{PR}{SR}$

$\frac{QR}{6} = \frac{8}{PS} = \frac{6}{3}$

$\therefore QR = 12$

$\therefore PS = 4$

(iii) $\frac{\Delta PQR}{\Delta SPR} = \frac{6^2}{3^2} = \frac{4}{1}$