

Q.I] Solve the following:

(2)

- i) Check whether (4,9,12) is a Pythagorean Triplet.
 ii) ΔABC & ΔBCD have same base and equal heights.

Then find

$$A(\Delta ABC) : A(\Delta BCD)$$

B] Solve the following:

(2)

- i) $\Delta LMN \sim \Delta PQR$, $9 \times A(\Delta PQR) = 16 \times A(\Delta LMN)$
 If $QR = 20$ Then find MN .

Q.II]

A) Solve the following:

(4)

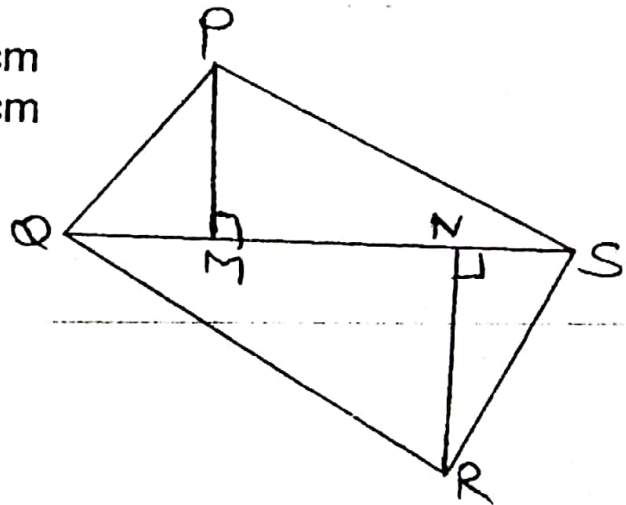
- 1) In the figure

$$PM = 10 \text{ cm}$$

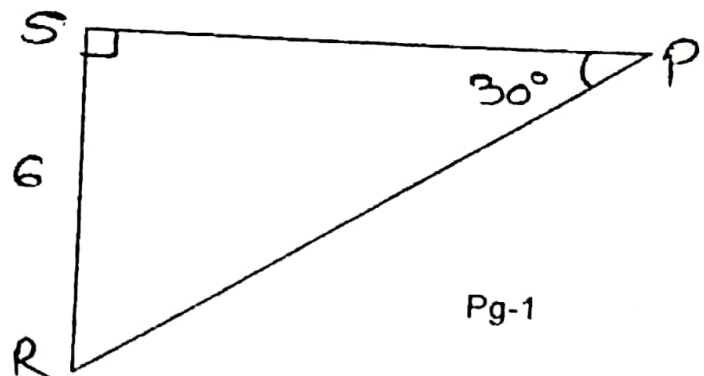
$$A(\Delta PQS) = 100 \text{ sq.cm}$$

$$A(\Delta QRS) = 110 \text{ sq.cm}$$

Then find NR .



- 2) Find RP and PS using the information given in ΔPSR



B) Solve the following:

(6)

1) In the fig-Seg PS is the median of ΔPQR and $PT \perp QR$.
Prove that

$$PR^2 = PS^2 + QR \times ST + \left(\frac{QR}{2}\right)^2$$

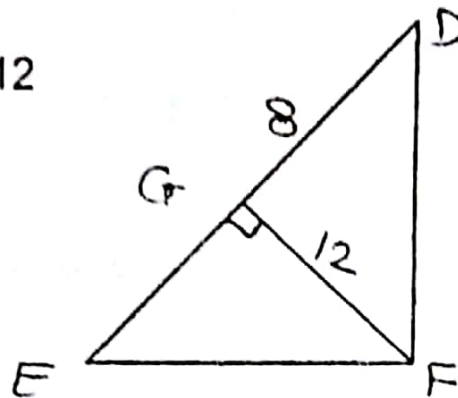
2) In ΔABC , Seg AP is the median. If $BC = 18$
 $AB^2 + AC^2 = 260$. Find AP.

Q.III] A) State and prove the Pythagoras Theorem (4)

B) Solve the following:-

(2)

1) In the fig, $\angle DFE = 90^\circ$
 $FG \perp ED$, If $GD = 8$, $FG = 12$
Find) EG



In ΔDFE

$\angle DEF = 90^\circ$ _____ given

Seg $FG \perp$ Hypotenuse DE _____ given

By the property of geometric Mean

$$FG^2 = DG \times \square$$

$$12^2 = 8 \times \square$$

$$\square = \frac{12 \times 12}{8}$$

$$EG = \square$$