

Triangles Ex 4.5 Q3

Answer:

It is given that
$$AB \parallel QR$$
 $AB = 3 \text{cm}$, $QR = 9 \text{cm}$ and $PR = 6 \text{ cm}$

We have to find PB .

Since $\Delta PRQ \sim \Delta PAB$

$$\Rightarrow \frac{AB}{QR} = \frac{PB}{PR}$$

So
$$\frac{AB}{QR} = \frac{PB}{PR}$$

$$\frac{3 \text{cm}}{9 \text{cm}} = \frac{PB}{6 \text{cm}}$$

$$PB = 2 \text{cm}$$
Hence, $PB = 2 \text{cm}$

Triangles Ex 4.5 Q4

Answer:

It is given that $XY \parallel BC$.

$$AX = lcm \cdot XB = 3cm$$
 and $BC = 6cm$

We have to find XY.

Since $\triangle AXY \sim \triangle ABC$

$$\Rightarrow \frac{XY}{BC} = \frac{AX}{AB} (AB = AX + XB = 4)$$

So

$$\frac{XY}{6\text{cm}} = \frac{1\text{cm}}{4\text{cm}}$$

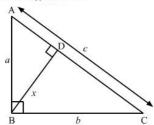
$$XY = \frac{6\text{cm}}{4\text{cm}}$$

$$=1.5cm$$

Hence,
$$XY = 1.5$$
cm

Triangles Ex 4.5 Q5

Let \triangle ABC be a right angle triangle having sides $\it a$ and $\it b$; and hypotenuse $\it c$. BD is the altitude drawn on the hypotenuse AC.



We have to find to prove ab = cx

Since the altitude is perpendicular on the hypotenuse, both the triangles are similar

$$\frac{AB}{BD} = \frac{AC}{BC}$$

$$\frac{a}{x} = \frac{c}{b}$$

$$xc = ab$$
Hence, $ab = cx$

Triangles Ex 4.5 Q6

Answer:

It is given that $\angle ABC=90^0$ and $BD\perp AC$. When $BD=8\mathrm{cm}$, $AD=4\mathrm{cm}$ we have to find the CD. Since ABC is right angle triangle and BD is perpendicular on AC, so

 $\Delta DBA \sim \Delta DCB$ (AA similarity)

$$\frac{BD}{CD} = \frac{AD}{BD}$$

$$\Rightarrow BD^2 = AD \times DC$$

$$\Rightarrow (8\text{cm})^2 = 4\text{cm} \times DC$$

$$\Rightarrow DC = \frac{64\text{cm}}{4\text{cm}} = 16\text{cm}$$
Hence, $CD = 16\text{cm}$

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