

RD Sharma
Solutions

Class 7

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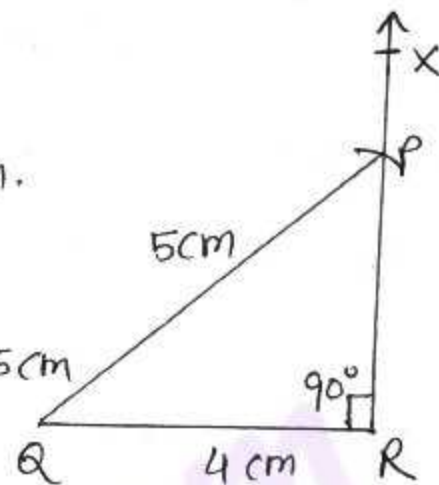


Exercise 17.5

Q.1 Draw a right triangle with hypotenuse of length 5 cm and one side of length 4 cm.

Solution: Steps:

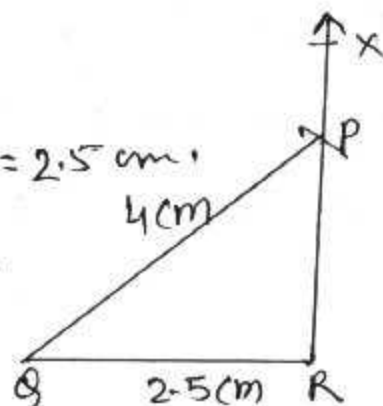
- (i) Draw a line segment $QR = 4 \text{ cm}$.
- (ii) Draw $\angle QRX = 90^\circ$
- (iii) with centre Q and radius $PQ = 5 \text{ cm}$ draw an arc of the triangle to intersect ray RX at P .
- (iv) Join PQ to obtain the desired triangle PQR .
- (v) PQR is the required triangle.



Q.2 Draw a right triangle whose hypotenuse is of length 4 cm and one side of length 2.5 cm.

Solution: Steps:

- (1) Draw a line segment $QR = 2.5 \text{ cm}$.
- (2) Draw $\angle QRX$ of measure 90°
- (3) With center Q and radius $PQ = 4 \text{ cm}$, draw an arc of the triangle to intersect ray RX at P .
- (4) Join PQ to obtain the desired triangle PQR .
- (5) PQR is the required triangle.

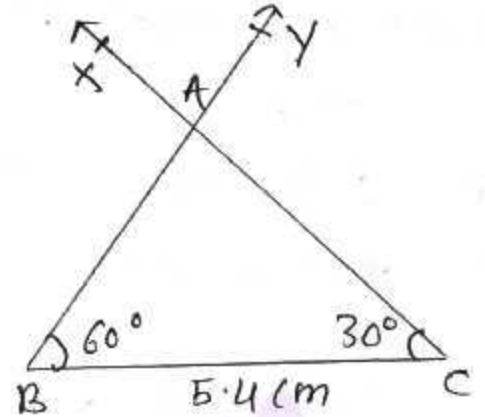


3. Draw a right triangle having hypotenuse of length 5.4 cm, and one of the acute angles of measure 30° .

Sol:- Let ABC be the right at A such that hypotenuse $BC = 5.4 \text{ cm}$. Let $C = 30^\circ$

Therefore $\angle A + \angle B + \angle C = 180^\circ$

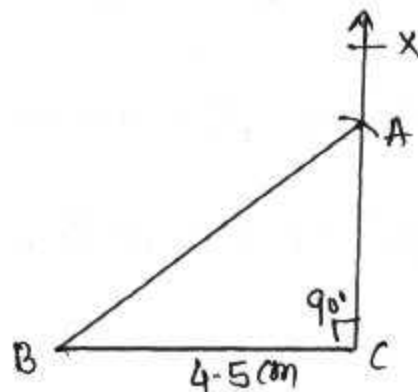
Steps of Construction:



- (1) Draw a line segment $BC = 5.4 \text{ cm}$.
- (2) Draw angle $CBY = 60^\circ$.
- (3) Draw angle BCX of measure 30° with X on the same side of BC as Y .
- (4) Let BY and CX intersect at A .
- (5) Then ABC is the required triangle.

Q.4 Construct a right triangle ABC in which $AB = 5.8 \text{ cm}$, $BC = 4.5 \text{ cm}$ and $\angle C = 90^\circ$.

Solution:



Steps: (i) Draw a line segment $BC = 4.5 \text{ cm}$.

(ii) Draw $\angle BCX = 90^\circ$

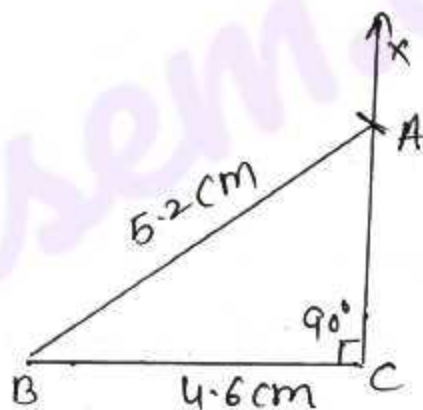
(iii) with centre B and radius $AB = 5.8 \text{ cm}$, draw an arc of the triangle to intersect ray CX at A

(iv) Join AB to obtain the desired triangle ABC.

(v) ABC is the required triangle.

Q.5 Construct a right triangle, right angled at C in which $AB = 5.2 \text{ cm}$ and $BC = 4.6 \text{ cm}$.

Solution:



Steps (i) Draw a line segment $BC = 4.6 \text{ cm}$.

(ii) Draw $\angle BCX = 90^\circ$

(iii) with centre B and radius $AB = 5.2 \text{ cm}$, draw an arc of the triangle to intersect ray CX at A.

(iv) Join AB to obtain the desired triangle ABC.

(v) ABC is the required triangle.