

RD Sharma
Solutions

Class 7

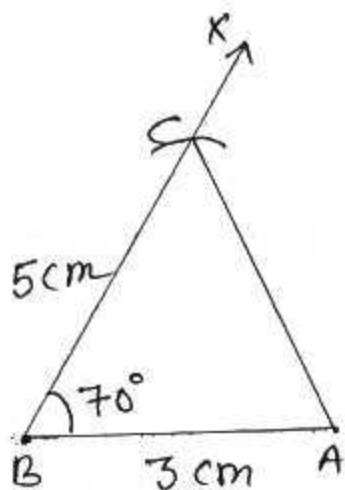
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Exercise 17.3

Q.1 Draw $\triangle ABC$ in which $AB = 3\text{cm}$, $BC = 5\text{cm}$ and $\angle B = 70^\circ$.

Solution:

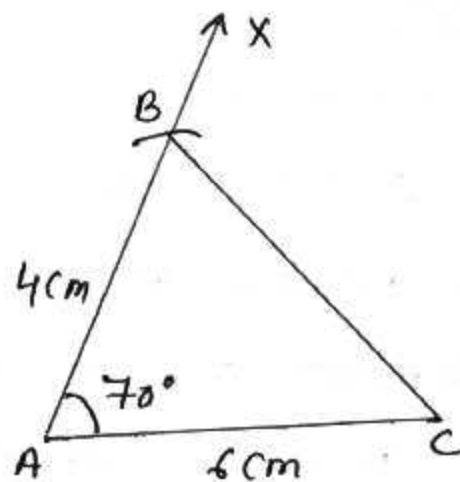


- Steps: (i) Draw a line segment $AB = 3\text{cm}$.
 (ii) Draw ~~$\angle XBA$~~ $\angle XBA = 70^\circ$
 (iii) Cut an arc on BX at a distance of 5 cm at C.
 (iv) Join AC. $\triangle ABC$ is required triangle.

Q.2 Draw $\triangle ABC$ in which $\angle A = 70^\circ$, $AB = 4\text{cm}$, $AC = 6\text{cm}$
 Measure BC.

Solution: Steps

- (i) Draw $AC = 6\text{cm}$
 (ii) Draw $\angle XAC = 70^\circ$
 (iii) from A cut an arc of 4 cm on AX at point B.



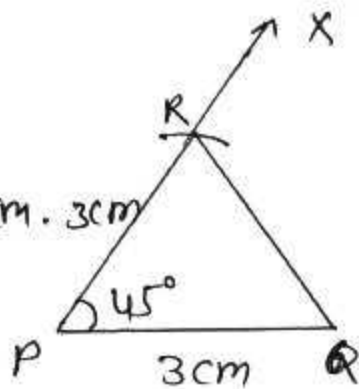
- (iv) Join BC to get required triangle.

Q.3 Draw an isosceles triangle in which each of the equal side is of length 3cm and the angle between them is 45° .

Solution:

Steps

- (i) Draw a line segment PQ = 3cm.
- (ii) Draw $\angle XPQ = 45^\circ$
- (iii) Cut an arc PX at a distance of 3cm from P.
- (iv) Join QR to get the required triangle.

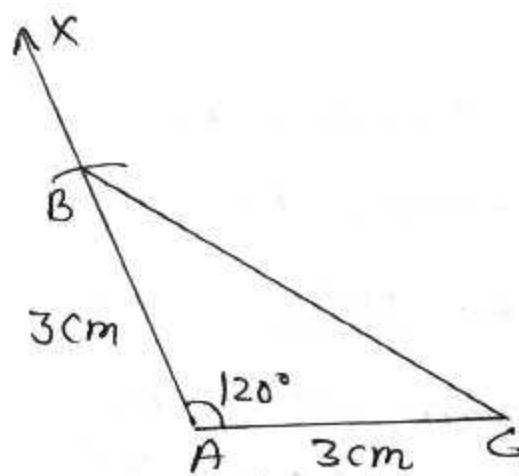


Q.4 Draw $\triangle ABC$ in which $\angle A = 120^\circ$, $AB = AC = 3\text{cm}$. Measure $\angle B$ and $\angle C$.

Solution

Steps

- (i) Draw $AB = 3\text{cm}$
- (ii) Draw $\angle XAC = 120^\circ$
- (iii) Cut an arc on AX at a distance of 3cm at B.
- (iv) Join BC to get required triangle.
- (v) $\angle B = \angle C = 30^\circ$

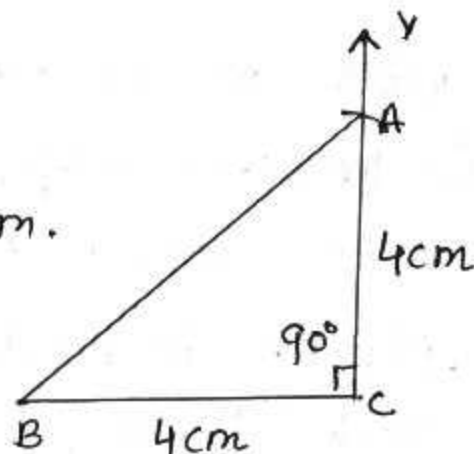


Q.5 Draw $\triangle ABC$ in which $\angle C = 90^\circ$. $AC = BC = 4\text{cm}$

Solution:

Steps

- (i) Draw a line segment $BC = 4\text{cm}$.
- (ii) Draw $\angle BCY = 90^\circ$.
- (iii) Cut an arc on CY at a distance of 4cm at A .
- (iv) Join AB . ABC is the required triangle.

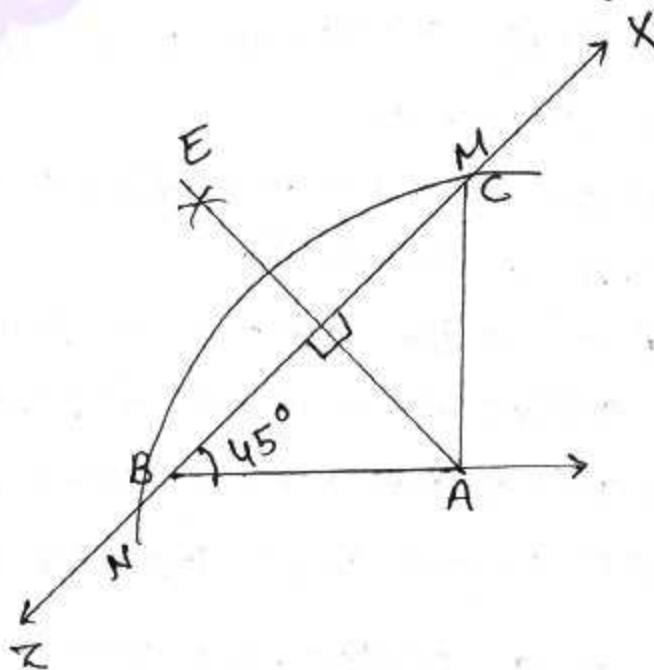


Q.6 Draw a triangle ABC in which $BC = 4\text{cm}$, $AB = 3\text{cm}$, and $\angle B = 45^\circ$. Also, draw a perpendicular from A on BC .

Solution:

Steps

- (i) Draw $AB = 3\text{cm}$.
- (ii) Draw an angle 45° and cut an arc at this angle at a radius of 4cm at C .
- (iii) Join AC to get the required triangle.
- (iv) With A as centre, draw intersecting arcs at M and N .



- (v) with centre M and radius more than half of MN, cut an arc on the opposite side of $\angle A$.
- (vi) with N as centre and as same radius taken in previous step, cut an arc intersecting the previous arc at E.
- (vii) Join AE. It meets BC at D, then AE is required perpendicular.

Q.7 Draw a triangle ABC, with $AB = 3\text{cm}$, $BC = 4\text{cm}$ and $\angle B = 60^\circ$. Also draw the bisectors of angles C and A of the triangle, meeting in a point O. Measure $\angle COA$.

Solution: Steps (i) Draw $BC = 4\text{cm}$.

(ii) Draw $\angle CBX = 60^\circ$

(iii) Draw an arc BX of radius 3cm .

(iv) Join AC to get required Δ .

(v) with A as centre, cut arcs of same radius cutting AB and AC at P & Q.

(vi) From P and Q cut arcs of same radius intersecting at T.

(vii) Join AT to get angle bisector of angle A.

(viii) with C as centre, cut arcs of same radius cutting CB and CA at M and N.

(ix) from M and N, cut arcs of same radius intersecting at R.

(x) Join CR to get angle bisector of angle C.

(xi) Mark the point of intersection of CR and AT as O.

(xii) Angle $\angle COA = 120^\circ$.

