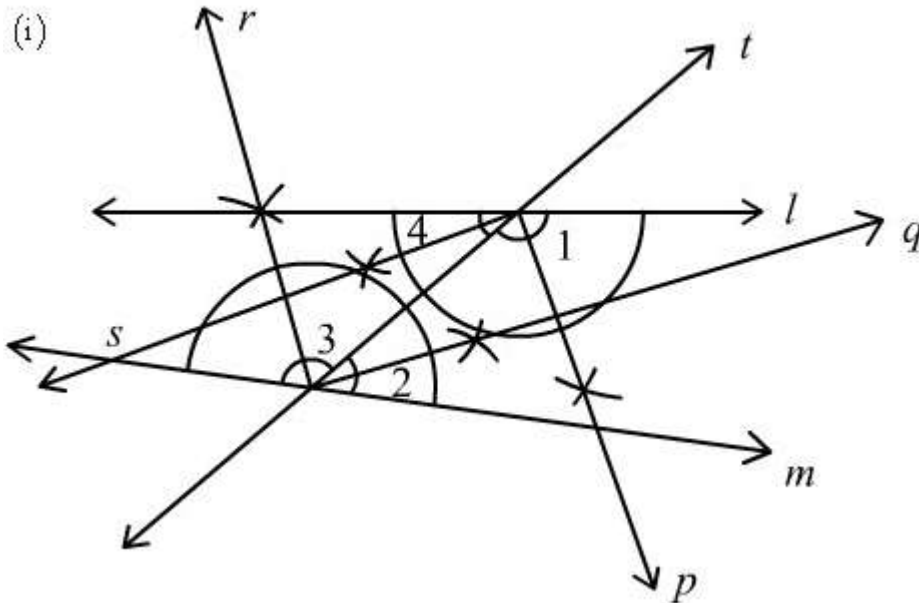


Class 09 - Construction Triangle

Q. Draw lines l and m intersected by a transversal t . Construct angle bisectors of the interior angles on the same side of the transversal.



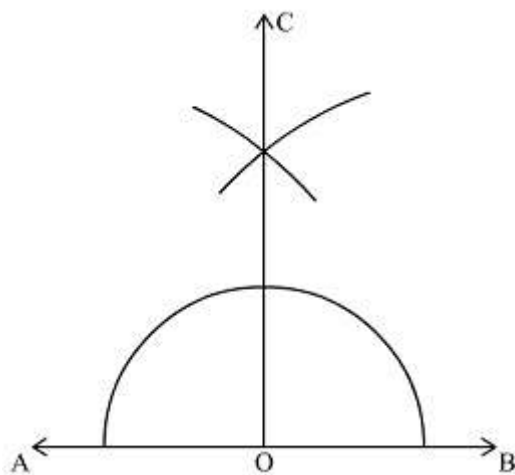
Lines l and m are not parallel.

$\angle 1$ and $\angle 2$ are the interior angles on the same side of the transversal.

p and q bisect $\angle 1$ and $\angle 2$ respectively.

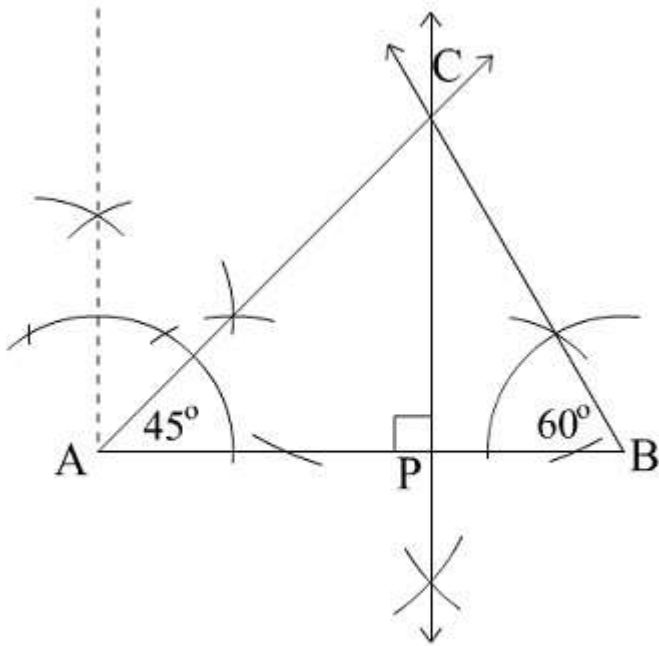
r and s bisect $\angle 3$ and $\angle 4$ respectively.

Q. Draw a straight angle. Using a compass bisect it. Name the angles obtained.



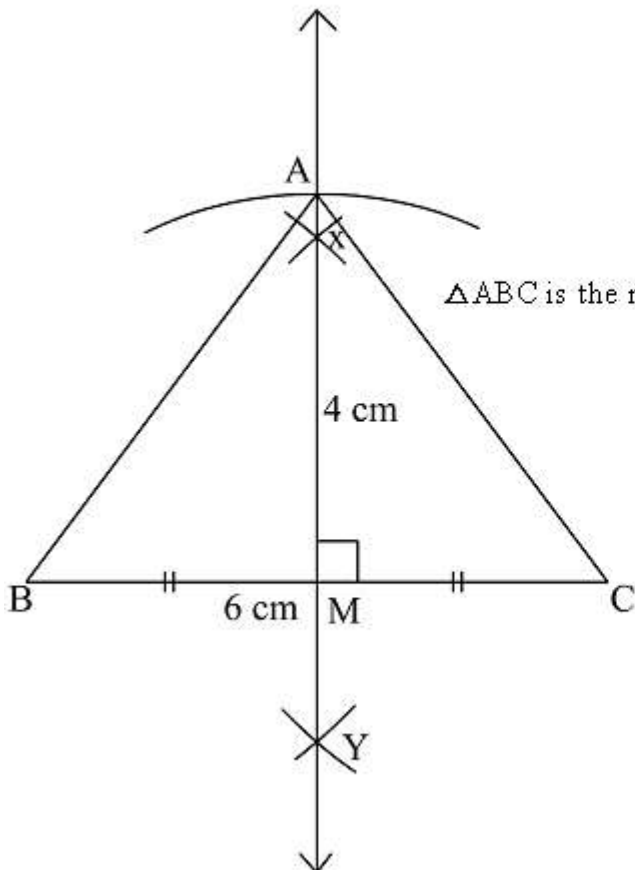
Draw a straight angle AOB . Draw bisector of $\angle AOB$: $\angle AOC$ and $\angle BOC$

Q. Construct triangle ABC where $AB = 5\text{CM}$. Angle $B = 60$ Degrees, angle $A = 45$ Degrees. Draw the perpendicular from C to AB using compass and ruler



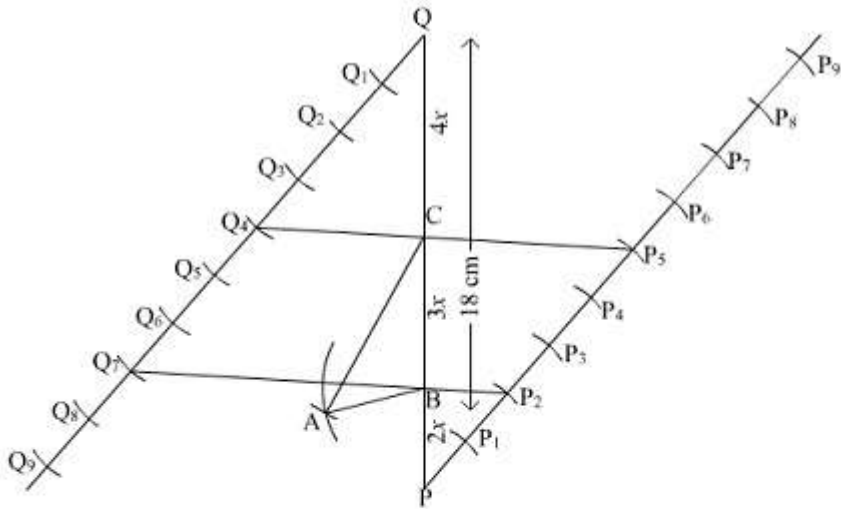
$\triangle ABC$ is the required triangle in which CP is the perpendicular from C to AB .

Q. Construct an isosceles triangle ABC in which unequal side $BC = 6$ CM and altitude $AD = 4$ CM. Also, measure the lengths of equal sides.



$\triangle ABC$ is the required isosceles triangle in which $AB = AC = 5$ cm

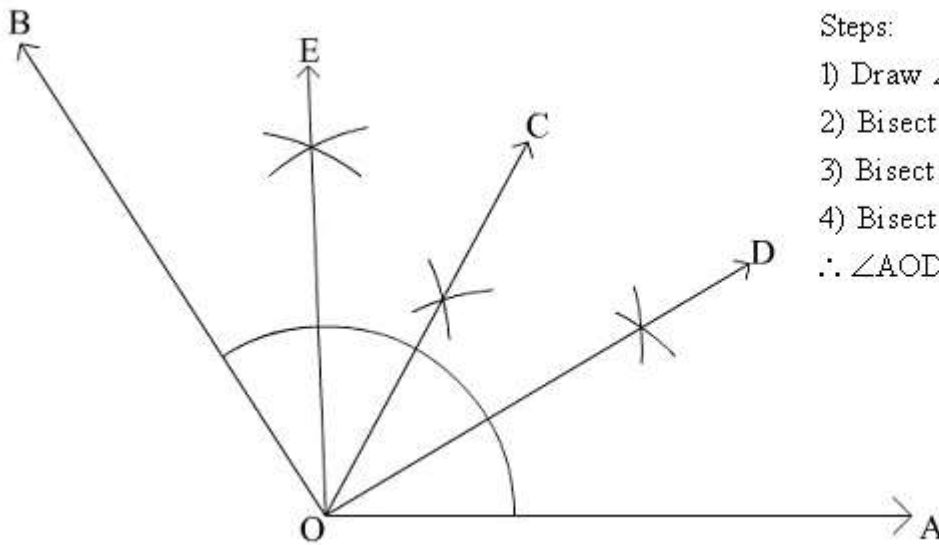
Q. Construct a triangle ABC whose perimeter is 18cm and sides are in the ratio 2:3:4



Steps of construction:

1. Draw $PQ = 18 \text{ cm}$
 2. Divide PQ in $2 + 3 + 4 = 9$ parts such that $PB:BC:CQ = 2:3:4$.
 3. Taking B as centre and PB as radius draw an arc.
 4. Taking C as centre and CQ as radius draw an arc intersecting the arc of step 3 at A .
 5. Join AB and AC .
- $\triangle ABC$ is the required triangle.

Q. Construct any obtuse angle and divide it into 4 equal parts using ruler and compass.



Steps:

- 1) Draw $\angle BOA$
 - 2) Bisect $\angle BOA$, we get $\angle AOC$ and $\angle COB$
 - 3) Bisect $\angle AOC$, we get $\angle AOD$ and $\angle COD$
 - 4) Bisect $\angle BOC$, we get $\angle COE$ and $\angle EOB$
- $\therefore \angle AOD = \angle COD = \angle COE = \angle BOE$