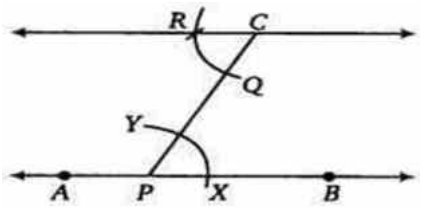
CLASS Notes

Class: VII	**Topic: CH 10 – PRACTICAL GEOMETRY** **Date : 25/10/2021**
Subject: MATHEMATICS	

EXERCISE 10.1

1. Draw a line, say AB, take a point C outside it. Through C, draw a line parallel to AB using ruler and compasses only.

Solution:-

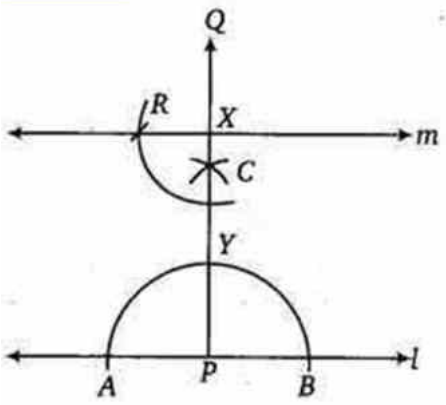


Steps of construction

1. Take any point P on the line AB.
2. Take any point C outside AB and join CP.
3. With P as centre, draw an arc cutting AB and PC at X and Y respectively.
4. With centre C and the same radius as in step 3, draw an arc on the opposite side of PC to cut PC at Q.
5. With centre Q and radius equal to XY, draw an arc cutting the arc drawn in step 4 at R.
6. Join CP and produce it in both directions to obtain the required line.

2. Draw a line l. Draw a perpendicular to l at any point on l. On this perpendicular choose a point X, 4 cm away from l. Through X, draw a line m parallel to l.

Solution:-



Steps of construction

1. Draw a line l and take any point P on it.
2. With P as centre and any radius, draw an arc to intersect line l at A and B.
3. With A as centre and radius greater than PA, draw in arc.
4. With centre B and the same radius, as in step 2, draw another arc to intersect the arc drawn in step 2 at C.
5. Join PC and produce it to Q.
6. Then PQ ⊥ *l*
7. With P as centre and radius equal to 4 cm, draw an arc to intersect PQ at X such than PX = 4 cm.
8. At X, make ∠RXP = ∠BPX.
9. Join XR to obtain the required line m.

EXERCISE 10.2

1. Construct ΔXYZ in which XY = 4.5 cm, YZ = 5 cm and ZX = 6 cm

Solution:-

Steps of construction

1. Draw a line segment YZ = 5 cm.
2. With Y centre and draw an arc radius cm.
3. With Z as centre and draw another arc intersecting the arc radius = 6 cm, at X.

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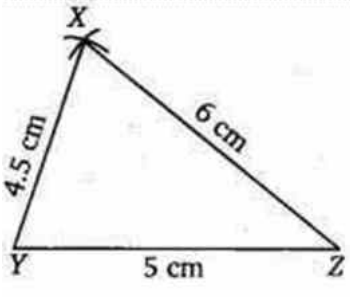
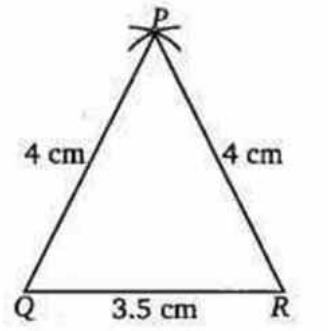


4. Join XY and XZ to obtain the required triangle.

3. Draw ΔPQR with PQ = 4 cm, QR = 3.5 cm and PR = 4 cm. What type of triangle is this?

Solution:-



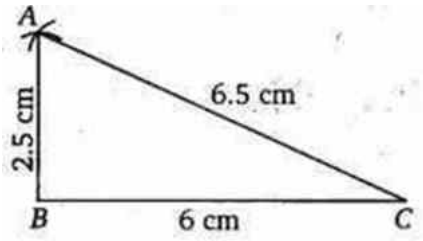
This is an isosceles triangle

Steps of construction

1. Draw a line segment QR = 3.5 cm.
2. With centre Q and radius = 4 cm, draw an arc.
3. With R as centre and radius = 4 cm, draw another arc intersecting the arc drawn in step 2 at P.
4. Join PQ and PR to obtain the required triangle. ΔPQR is an isosceles triangle.

4.Construct ΔABC such that AB = 2.5 cm, BC = 6 cm and AC = 6.5 cm. Measure □B.

Solution:



Steps of construction

1. Draw a line segment BC = 6 cm
2. With centre B and radius = 2.5 cm, draw an arc.
3. With centre C and radius =6.5 cm, draw another arc intersecting the arc drawn in step 2 at A.
4. Join AB and AC to obtain the required triangle.
   On measuring, we find that ∠B = 90°.

Assignment – Ex 10.2 – Q2

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