CONSTRUCTIONS

16

Q1. Draw a line segment $\overline{PQ}$ = 5 cm. Take any point R on it. Draw a perpendicular from point R on the line segment $\overline{PQ}$.

Q2. Draw a line segment AB = 7 cm. Mark a point X such that the perpendicular distance between the point X and point B is 3.5 cm. Join A and X. Identify the type of triangle that is formed by the resulting figure.

Q3. A line segment MN is 6 cm long. Draw a perpendicular bisector AB of line segment MN, intersecting MN in X. Draw a perpendicular bisector of XN intersecting XN at C. Measure the lengths of the various line segments and prove that:

$CN = \frac{1}{4} MN$

Q4. Draw a line segment XY = 4 cm. Draw a line AB parallel to XY at a distance of 4 cm. From points X and Y draw two perpendiculars to AB, intersecting AB at W and Z respectively. Name the shape formed by XWZY.

Q5. Draw a copy of an angle measuring 72° using ruler and compass.

Q6. Take any 3 non- collinear points and form ∠XYZ. Draw the angle bisector YA of ∠XYZ. Write the measure of all the angles.

Q7. Construct an angle measuring 120°. Using this angle construct an angle of 30° using only one angle bisector. (Hint: 180° – 120° = 60°, $\frac{1}{2}$ of 60° = 30°)

Q8. Construct a ΔXYZ such that XY = 6 cm, ∠ZXY =60° and ∠ZYX = 30°. Find the measure of ∠XZY.

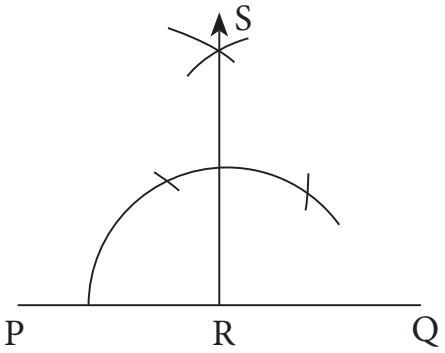
Q9. Construct a Δ PQR right-angled at Q such that QR = 3 cm and QP = 4 cm. Find the measure of the third side.

Q10. Construct the incircle of an equilateral triangle Δ ABC with base measuring 6 cm.

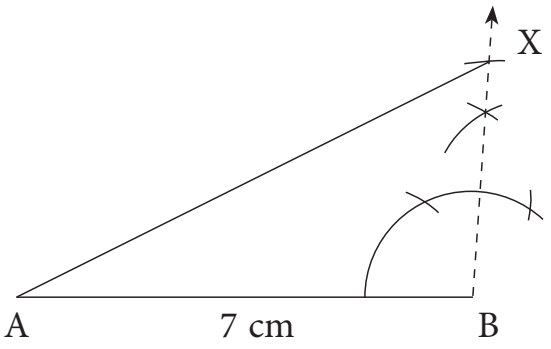
Copyright © 2017 Macmillan Publishers India Private Limited. All rights reserved.

ANSWERS

1.

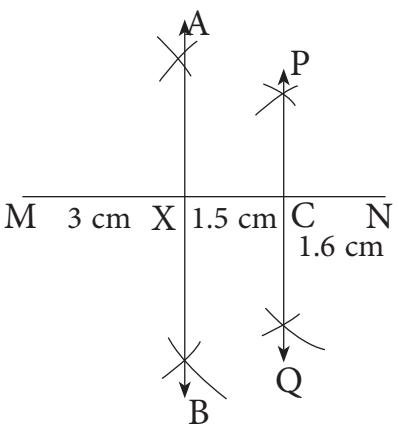


2.



Right-angled triangle

3.

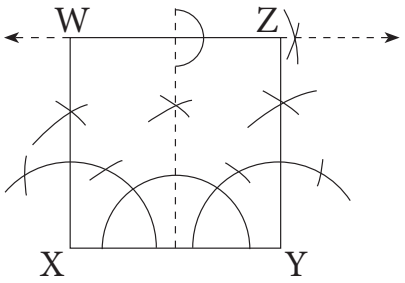


CN = 1.5 cm

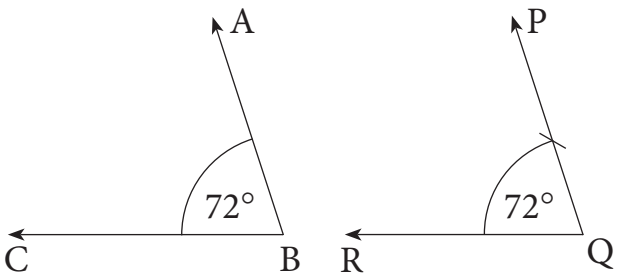
MN= $\frac{1}{4}$ of 6 cm = 1.5 cm

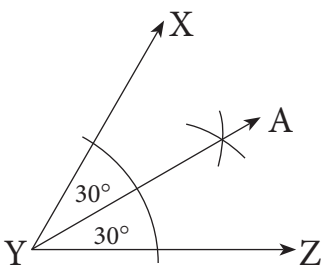
LHS = RHS

Copyright © 2017 Macmillan Publishers India Private Limited. All rights reserved.

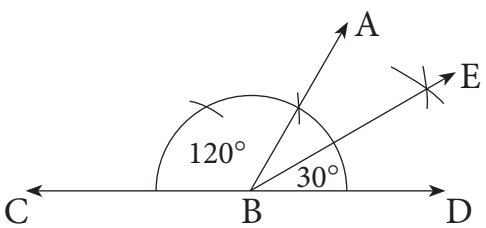
4. 

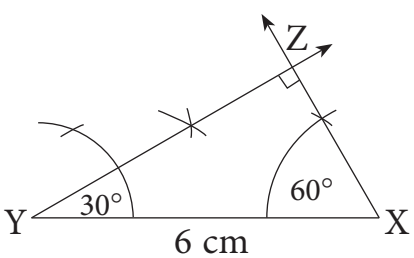
XWZY is a square.

5. 

6. 

$\angle YXZ = 60°$, $\angle XYA = 30°$, $\angle AYZ = 30°$

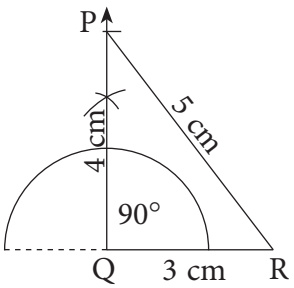
7. 

8. 

$\angle XZY=90°$

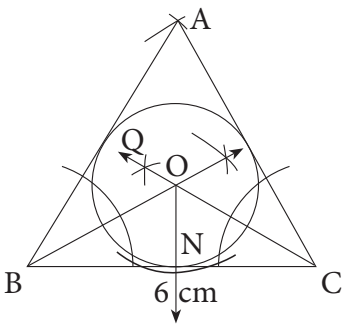
Copyright © 2017 Macmillan Publishers India Private Limited. All rights reserved.

9.



PR = 5 cm

10.



Copyright © 2017 Macmillan Publishers India Private Limited. All rights reserved.