

Board – CBSE

Class – 10

Topic – Construction

1. Divide a line segment in given ratio.
2. Draw a line segment  $AB=8\text{cm}$  and divide it in the ratio 4:3.
3. Divide a line segment of 7cm internally in the ratio 2:3.
4. Draw a circle of radius 4 cm. Take a point P on it. Draw tangent to the given circle at P.
5. Construct an isosceles triangle whose base 7.5 cm and altitude is 4.2 cm.
6. Construct a triangle of sides 4cm, 5cm and 6cm and then triangle similar to it whose sides are  $\frac{2}{3}$  of corresponding sides of the first triangle.
7. Construct a triangle similar to a given  $\Delta ABC$  such that each of its sides is  $\frac{2}{3}$ rd of the corresponding sides' of  $\Delta ABC$ . It is given that  $AB=4\text{cm}$   $BC=5\text{cm}$  and  $AC=6\text{cm}$  also write the steps of construction.
8. Draw a right triangle ABC in which  $\angle B = 90^\circ$   $AB=5\text{cm}$ ,  $BC=4\text{cm}$  then construct another triangle ABC whose sides are  $\frac{5}{3}$  times the corresponding sides of  $\Delta ABC$ .
9. Draw a pair of tangents to a circle of radius 5cm which are inclined to each other at an angle of  $60^\circ$
10. Draw a circle of radius 5cm from a point 8cm away from its centre construct the pair of tangents to the circle and measure their length.
11. Construct a triangle PQR in which  $QR=6\text{cm}$   $\angle Q = 60^\circ$  and  $\angle R = 45^\circ$
12. Construct another triangle similar to  $\Delta PQR$  such that its sides are  $\frac{5}{6}$  of the corresponding sides of  $\Delta PQR$ .
13. Construct an isosceles triangle whose base is 6 cm and altitude 4 cm. Then construct another triangle whose sides are  $\frac{3}{4}$  times the corresponding sides of the isosceles triangle.
14. Draw a right triangle ABC in which  $AB = 6\text{ cm}$ ,  $BC = 8\text{ cm}$  and  $\angle B = 90^\circ$ . Draw BD perpendicular from B on AC and draw a circle passing through the points, B, C and D. Construct tangents from A to this circle
15. Draw a right triangle in which the sides (other than hypotenuse) are of lengths 8 cm and 6 cm. Then construct another triangle whose sides are  $\frac{3}{4}$  times the corresponding sides of the given triangle.
16. Construct a triangle ABC in which  $AB=8\text{cm}$   $BC = 10\text{ cm}$ ,  $AC= 6\text{cm}$  construct another triangle whose sides are  $\frac{3}{4}$  of the corresponding sides of  $\Delta ABC$