

CONSTRUCTIONS

Questions for self practice

1. Draw a line segment AB of length 4.4cm. Taking A as centre, draw a circle of radius 2cm and taking B as centre, draw another circle of radius 2.2cm. Construct tangents to each circle from the centre of the other circle.
2. Draw a pair of tangents to a circle of radius 2cm that are inclined to each other at an angle of 90° .
3. Construct a tangent to a circle of radius 2cm from a point on the concentric circle of radius 2.6cm and measure its length. Also, verify the measurements by actual calculations. (length of tangent = 2.1cm)
4. Construct an isosceles triangle whose base is 7cm and altitude 4cm and then construct another similar triangle whose sides are $1\frac{1}{2}$ times the corresponding sides of the isosceles triangle.
5. Draw a line segment AB of length 8cm. taking A as center, draw a circle of radius 4cm and taking B as centre, draw another circle of radius 3cm. Construct tangents to each circle from the center of the other circle.

Section-B

PRACTICE EXERCISE

1. Divide a line segment of length 10 cm internally in the ratio 3 : 5. Also, justify your construction.
2. Divide a line segment of length 7.8 cm internally in the ratio 4 : 3. Also, justify your construction.
3. Draw a right angled triangle ABC with AB = 4.5 cm, AC = 7.5 cm and $\angle B = 90^\circ$. Construct another $\Delta A'BC'$ whose corresponding sides are $\frac{5}{3}$ times of given triangle.
4. Construct a ΔABC with BC = 6 cm, $\angle A = 60^\circ$ and median AD through A is 5 cm long. Construct a $\Delta A'BC'$ similar to ΔABC with BC = 8 cm.
5. Construct a ΔABC similar to a given equilateral triangle PQR with side 5 cm such that each of its sides is $\frac{6}{7}$ th of the corresponding sides of ΔPQR .

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6. Construct a $\triangle ABC$, $BC = 6.5$ cm, $\angle B = 45^\circ$ and $\angle A = 100^\circ$. Construct another triangle similar to the triangle ABC whose sides are $\frac{6}{5}$ times of the triangle ABC
7. Construct a tangent to a circle of radius 4 cm from a point on the concentric circle of radius 6 cm and measure its length. Also, verify the measurement by actual calculation. (**Ans.** 4.5 cm approx)
8. Draw a circle of radius 3.5 cm. Take two points A and B on one of its extended diameter each at a distance of 8 cm from its centre. Draw tangents to the circle from these two points A and B.
9. Draw a line segment AB of length 11 cm. Taking A as centre, draw a circle of radius 4 cm and taking B as centre, draw another circle of radius 3 cm. Construct tangents to each circle from the centre of the other circle.
10. Let ABC be a right triangle in which $AB = 6$ cm, $BC = 8$ cm and $\angle B = 90^\circ$. BD is the perpendicular from B on AC. The circle through B, C, D is drawn. Construct the tangents from A to this circle.