Class – X	CHAPTER – CONSTRUCTION	SUBJECT – MATHEMATICS

1. Divide a line segment of 7 cm length externally in the ratio 5 : 3.
2. Divide a line segment of 8 cm length externally in the ratio 3 : 5.
3. Draw a line PQ = 8.4 cm. Using a ruler and compasses only, find a point R on PQ such that PR = $\frac{3}{4}$ PQ.
4. Construct a triangle with sides 5 cm, 5.5 cm and 6.5 cm. Now construct another triangle, whose sides are $\frac{3}{5}$ times the corresponding sides of the given triangle.
5. Construct a triangle similar to given equilateral triangle PQR with side 6.6 cm such that each of its sides is $\frac{6}{7}$ of the corresponding side of ΔPQR.
6. Draw a right triangle in which sides(other than hypotenuse) are of length 8 cm and 6 cm. Then construct another triangle whose sides are $\frac{3}{4}$ times the corresponding sides of the first triangle.
7. Draw a triangle ABC with base BC = 7 cm, ∠B = 45° and ∠C = 60°. Then construct another triangle, whose sides are $\frac{2}{3}$ times the corresponding sides of ΔABC.
8. Draw a triangle ABC in which AB = 5.4 cm, BC = 6.2 cm and ∠B = 60°. Construct a triangle similar to it and of scale factor $\frac{5}{3}$.
9. Construct a triangle ABC in which AB = 4 cm, ∠B = 60° and altitude CD = 3 cm. Construct a triangle similar to ΔABC such that each of its sides is $\frac{3}{2}$ times that of the corresponding sides of ΔABC.
10. Draw a circle of 4.3 cm. From a point 5 cm from the centre of the circle, draw two tangents to the circle. Measure the length of each tangent.
11. Draw a pair of tangents to a circle of radius 3 cm which are inclined to each other at an angle of 75.
12. Draw two concentric circles of radii 3.5 cm and 6.5 cm. Taking a point on the outer circle, construct the pair of tangents to the other. Measure the length of tangents and verify it by actual calculation.
13. Draw a line segment of length 7 cm. Taking A as centre draw a circle of radius 3 cm and taking B as centre draw another circle of radius 2.5 cm. Construct tangents to each circle from the centre of the other circle.
14. Draw a circle of radius 1.6 cm. Take two points P and Q on one of its extended diameter each at a distance of 3.5 cm from its centre. Draw tangents to the circle from two points P and Q.
15. Let ABC be a right triangle in which AB = 3 cm, OB = 4 cm and ∠B = 90°. BD is perpendicular from B on AC. The circle through B, C, D is drawn. Construct the pair of tangents from the point A to the circle.

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