EXERCISE

Q.1 Draw a line segment of length 7 cm and divide it in the ratio 2 : 3. Measure the two parts.

Q.2 Draw a line segment of length 7.8 cm and divide it in the ratio 5 : 8. Measure the two parts.

Q.3 Construct a triangle with sides 5 cm, 6 cm and 7 cm and then construct another triangle similar to it whose sides are $\frac{2}{3}$ of the corresponding sides of the first triangle.

Q.4 Construct a triangle with sides 5 cm, 6.5 cm and 7.6 cm and then construct another triangle similar to it whose sides are $\frac{7}{5}$ of the corresponding sides of the first triangle.

Q.5 Construct a triangle ABC whose sides are 5 cm, 12 cm and 13 cm. Construct another triangle similar to ΔABC and with sides $\frac{3}{5}$th of the corresponding sides of the given triangle.

Q.6 Construct a triangle similar to a given triangle with sides 6 cm, 7 cm and 8 cm and whose sides are 1.4 times the corresponding sides of the given triangle.

Q.7 Construct an isosceles triangle whose base is 7 cm and 4 cm and then construct another similar triangle whose sides are $1\frac{1}{2}$ times the corresponding sides of the isosceles triangle.

Q.8 Draw a triangle ABC with side BC = 8 cm, AB = 6 cm and $\angle ABC = 60^\circ$. Construct another triangle similar to ΔABC whose sides are $\frac{3}{4}$ of the corresponding sides of the triangle ABC.

Q.9 Draw a triangle with side BC = 6 cm, $\angle B = 45^\circ$ and $\angle A = 105^\circ$. Then, construct similar triangle whose sides are $\frac{4}{3}$ times the corresponding sides of ΔABC.

Q.10 Draw right triangle in which the sides (other than hypotenuse) are of lengths 3 cm and 4 cm. Then construct another similar triangle whose sides are $\frac{5}{3}$ times the corresponding sides of given triangle.

Q.11 Draw a circle of radius 4.6 cm. Take a point P on it. Construct a tangent to the circle at the point P. Also write the steps of construction.

Q.12 Draw a circle of radius 3.5 cm. Construct two tangents to it inclined at an angle of 60° to each other.

Q.13 Draw a circle of radius 4 cm. Mark its centre as O. Mark a point P such that OP = 5 cm. Using ruler and compasses only, construct two tangents from P to the circle. Measure the length of one of them.

Q.14 Draw a circle of diameter 8 cm. From a point P, 7 cm away from its centre, construct a pair of tangents to the circle. Measure the lengths of the tangent segments.

Q.15 Draw a circle of radius 3 cm. Take two points P and Q on one of its extended diameter each at a distance of 7 cm from its centre. Draw tangents to the circle from these two points P and Q.

Q.16 Draw a circle with the help of a bangle. Take a point outside the circle. Construct the pair of tangents from this point to the circle.

Q.17 Draw a circle of diameter 6 cm with centre O. Draw a diameter AOB. Through A or B draw tangent to the circle.

Q.18 Construct a ΔABC in which AB = 5cm, $\angle B = 60^{\circ}$ and altitude CD = 3 cm. Construct ΔAQR similar to ΔABC such that each side of ΔAQR is 1.5 times that of the corresponding side of ΔABC.

Q.19 Draw a circle of radius 3 cm. From a point 5 cm away from the centre of the circle, draw two tangents to the circle. Find the length of the tangents.

ANSWER KEY

1. 2.8 cm, 4.2 cm

2. 3 cm, 4.8 cm

13. 3 cm

14. 5.7 cm (approx)

19. 4 cm each