Date: 29/9/2021

**Q1.** Construct a triangle similar to a given triangle $ABC$ with its sides equal to $\frac{3}{4}$ of the corresponding sides of the triangle $ABC$ (*i.e.*, of scale factor $\frac{3}{4}$).

**Q2.** Construct a triangle similar to a given triangle $ABC$ with its sides equal to $\frac{5}{3}$ of the corresponding sides of the triangle $ABC$ (*i.e.*, of scale factor $\frac{5}{3}$).

**Q3.** Draw a line segment of length 7.6 cm and divide it in the ratio 5 : 8. Measure the two parts and give the justification of the construction.

**Q4.** Construct a triangle of sides 4 cm, 5 cm and 6 cm and then a triangle similar to it whose sides are $\frac{2}{3}$ of the corresponding sides of the first triangle. Give the justification of the construction also.

**Q5.** Construct a triangle with sides 5 cm, 6 cm and 7 cm and then another triangle whose sides are $\frac{7}{5}$ of the corresponding sides of the first triangle. Give the justification of the construction also.

**Q6.** Construct an isosceles triangle whose base is 8 cm and altitude 4 cm and then another triangle whose sides are $1\frac{1}{2}$ of the corresponding sides of the isosceles triangle. Give the justification of the construction also.

**Q7.** Draw a triangle $ABC$ with side $BC = 6$ cm, $AB = 5$ cm and $\angle ABC = 60°$. Then, construct a triangle whose sides are $\frac{3}{4}$ of the corresponding sides of the triangle $ABC$. Give the justification of the construction also.

**Q8.** Draw a triangle $ABC$ with side $BC = 7$ cm, $\angle B = 45°$, $\angle A = 105°$. Then, construct a triangle whose sides are $\frac{4}{3}$ times of the corresponding sides of $\Delta ABC$. Give the justification of the construction also.

**Q9.** Draw a right triangle in which the sides (other than hypotenuse) are of lengths 4 cm and 3 cm. Then construct another triangle whose sides are $\frac{5}{3}$ times the corresponding sides of the given triangle. Give the justification of the construction also.

**Q10.** Draw a circle of radius 6 cm. From a point 10 cm away from its centre, construct the pair of tangents to the circle and measure their lengths. Give the justification of the construction also.

**Q11.** 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. Give the justification of the construction also.

**Q12.** 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 $Q$. Give the justification of the construction also.

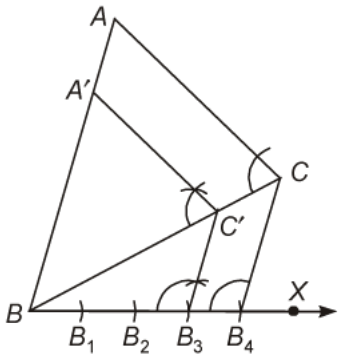
**Q13.** Draw a pair of tangents to a circle of radius 5 cm which are inclined to each other at an angle of 60°. Give the justification of the construction also.

**Q14.** Draw a line segment $AB$ of length 8 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. Give the justification of the construction also.

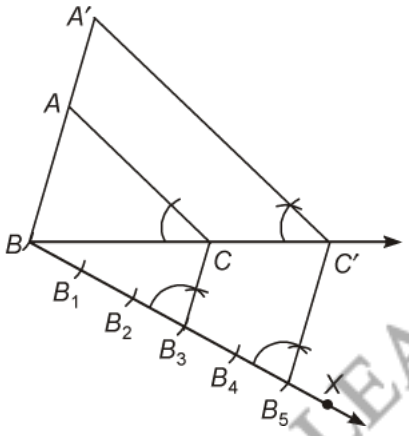
**Q15.** Let $ABC$ be a right triangle in which $AB = 6$ cm, $BC = 8$ cm and $\angle B = 90°$. $BD$ is the perpendicular from $B$ on $AC$. The circle through $B, C, D$ is drawn. Construct the tangents from $A$ to this circle. Give the justification of the construction also.

Date: 29/9/2021

**S1.** Construction.




**S2.** Construction.




**S3.** Try yourself.

**S4.** Try yourself.

**S5.** Try yourself.

**S6.** Try yourself.

**S7.** Try yourself.

**S8.** Try yourself.

**S9.** Try yourself.

**S10.** Try yourself.

**S11.** Try yourself.

**S12.** Try yourself.

**S13.** Try yourself.

**S14.** Try yourself.

**S15.** Try yourself.