Date: 29/9/2021

Q1. Draw a line segment of length 7 cm. Find a point P on it which divides it in the ratio 3 : 5.

Q2. Draw a right ΔABC in which $BC = 12$ cm, $AB = 5$ cm and $\angle B = 90°$. Construct a triangle similar to it and so scale factor $\frac{2}{3}$. Is the new triangle also a right triangle?

Q3. Draw a ΔABC in which $BC = 6$ cm, $CA = 5$ cm and $AB = 4$ cm. Construct a triangle similar to it and of scale factor $\frac{5}{3}$.

Q4. Construct a tangent to a circle of radius 4 cm from a point which is at a distance of 6 cm its centre.

Q5. Two line segments AB and AC include an angle of 60°, where $AB = 5$ cm and $AC = 7$ cm. Locate points P and Q on AB and AC, respectively such that $AP = \frac{3}{4}$ and $AQ = \frac{1}{4}$. Join P and Q and measure the length PQ.

Q6. Draw an isosceles triangle ABC in which $AB = AC = 6$ cm and $BC = 5$cm. Construct a triangle PQR similar to ΔABC in which $PQ = 8$ cm. Also justify the construction.

Q7. Draw a ΔABC in which $AB = 5$ cm, $BC = 6$ cm and $\angle ABC = 60°$. Construct a triangle similar to ABC with scale factor $\frac{5}{7}$. Justify the construction.

Q8. Draw a parallelogram $ABCD$ in which $BC = 5$ cm, $AB = 3$ cm and $ABC = 60°$, divide it into triangles BCD and ABD by the diagonal BD. Construct the triangle $BD'C'$ similar to ΔBDC with scale factor $\frac{4}{3}$. Draw the line segment $D'A'$ parallel to DA, where A' lies on extended side BA. Is $A'BC'D'$ a parallelogram?

Q9. Draw two concentric circles of radii 3 cm and 5 cm. Taking on outer circle construct the pair of tangents to the other. Measure the length of a tangent and verify it by actual calculation.

Q10. Draw a circle of radius 4 cm. Construct a pair of tangents to it, the angle between which is 60°. Also justify the construction. Measure the distance between the centre of the circle and the point of intersection of tangents.

Q11. Draw a ΔABC in which $AB = 4$ cm, $BC = 6$ cm and $AC = 9$ cm. Construct a triangle similar to ΔABC with scale factor $\frac{3}{2}$. Justify the construction. Are the two triangles congruent? Note that, all the three angles and two sides of the two triangles are equal.

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S1. Draw yourself.

S2. Draw yourself.

S3. Draw yourself.

S4. Draw yourself.

S5. $PQ = 3.25$ cm.

S6. Draw yourself.

S7. Draw yourself.

S8. Draw yourself.

S9. Draw yourself.

S10. Draw yourself.

S11. Draw yourself.