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Class: 10
Subject: Mathematics
Topic: Construction
No. of Questions: 20

Q1.   Draw a line segment of length 7.6 cm and divide it in the ratio 5 : 8 . Measure the two parts.

Q2.   Let ABC be a right triangle in which AB = 6cm, BC = 8 cm and $\angle B = 90°$. BD is the perpendicular from B on AC. The circle through B, C, D is drawn. Construction the tangents from A to this circle.

Q3.   Draw a line segment of length 7 cm and divide it in the ratio 2 : 3

Q4.   Construct a triangle similar to a given triangle with sides 7 cm, 9 cm and 10 cm and whose sides are 5/7 th of the corresponding sides of the given triangle.

Q5.   Draw a right triangle in which the sides (other than hypotenuse) are of lengths 4 cm and 3 cm. hen construct another triangle whose sides are 5/3 times the corresponding sides of the given triangle.

Q6.   To construct a tangent to circle from a point P outside the circle using its center O.

Q7.   To construct incircle of a triangle ABC whose sides are BC = a, CA = b and AB = c.

Q8.   To construct a circumscribe of a triangle ABC where a = BC , b = CA and c = AB.

Q9.   Construct a triangle ABC in which BC = 6 cm, $\angle A = 60°$ and the altitude through A is 4.5 cm. Measure the length of median through A. Write the steps of construction.

Q10.   Construct a triangle ABC in which BC = 5 cm, $\angle A = 70°$ and median AD through A is of length 3.5 cm. Also, determine the length of the altitude drawn from A on the side BC (Write the steps of construction also).

Q11.   Construction a ΔABC ∼ to a equilateral ΔPQR with side 5 cm such that each its sides is 6/7th of the corresponding side of ΔPQR . Also draw the circumcircle of ΔABC.

Q12.   Construct a triangle ABC in which BC = 6 cm, $\angle A = 60°$ and median AD = 5 cm. Also construct another triangle BPQ similar to triangle BCA such that the sides BP = 3/2 BC.

Q13. Construct a quadrilateral in which AB = 2.5 cm, BC = 3.5 cm , AC = 4.2 cm, CD = 3.5 cm and AD = 2.5 cm. Construct another quadrilateral AB'C'D' with diagonal AC' = 6.3 cm such that it is similar to quadrilateral ABCD.

Q14. 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.

Q15. Construct an isosceles triangle whose base is 8 cm and altitude 4 cm and then another triangle whose sides are $1\frac{1}{2}$ times the corresponding sides of the isosceles triangle.

Q16. 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.

Q17. 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.

Q18. Divided a line segments of 7 cm length externally in the ratio of 3 : 5.

Q19. Construction a tangent to a circle of radius 3 cm from a point out side the circle without using its centre.

Q20. 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.