LATEX ASSIGNMENT

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CLASS 10

Construction

1. In Fig. 1, $PQ \parallel BC$, $PQ = 3cm$, $BC = 9cm$ and $AC = 7.5cm$. Find the length of AQ.

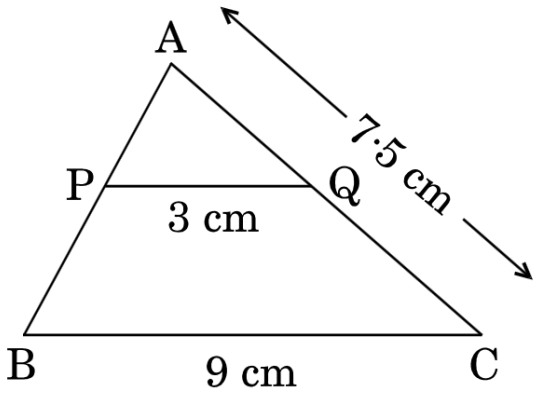

Figure 1: $PQ \parallel BC$

2. Draw a circle of radius $2.5cm$. Take a point P outside the circle at a distance of $7cm$ from the centre. Then construct a pair of tangents to the circle from point P.

3. Sides AB and AC and median AD of $\triangle ABC$ are respectively proportional to sides PQ and PR and median PM of $\triangle PQR$. Show that $\triangle ABC \sim \triangle PQR$.

4. In Fig. 2 BN and CM are medians of a $\triangle ABC$ right-angled at A. Prove that $4(BN^2 + CM^2) = 5BC^2$.

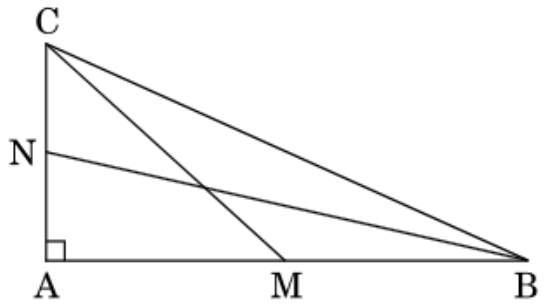

Figure 2: BN and CM are medians

5. Construct a pair of tangents to a circle of radius $4cm$ from a point P lying outside the circle at a distance of $6cm$ from the centre.

6. (a) Draw a line segment AB of length $8cm$ and locate a point P on AB such that $AP : PB = 1 : 5$.

   (b) Draw a circle of radius $3cm$. From a point P lying outside the circle at a distance of $6cm$ from its centre, construct two tangents PA and PB to the circle.

7. Construct a pair of tangents to a circle of radius $5cm$ which are inclined each other at an angle of 60^o.

8. Write the steps of construction for constructing a pair of tangents to a circle of radius $4cm$ from a point P, at a distance of $7cm$ from its centre O.