

ACTIVITY NO. - 11

Subject	Mathematics
Class	X
Chapter/Unit	Constructions
Topic	Tangents to a circle
Time	20 minutes
Nature of Activity	Individual

What will I learn (Learning Outcome)?

Drawing a pair of tangents from a point P outside the circle drawn using a bangle.

Skills: Applying, Analyzing and Creativity

What I have to do?

To draw a pair of tangents from a point P outside the circle drawn using a bangle.

What do I require?

A sheet of paper, geometry box and a bangle

What do I need to know?

Drawing of perpendicular bisector of a line, a right angle

➤ Teacher's Activity

Teacher will ask students to draw the perpendicular bisector of a line.

How will I proceed?

➤ Student's Activity

- 1) Draw a circle using a bangle.
- 2) Locate the centre O of the circle by drawing the perpendicular bisector of two chords drawn from the three points taken on the circle.
- 3) Join the centre of the circle O with the point P taken outside the circle.
- 4) Draw the perpendicular bisector to get the mid-point of the OP.
- 5) With the point obtained in step 4 above draw a circle passing through the centre and the point taken outside the circle.
- 6) The two points of intersection of the original circle and the circle drawn in the step 5 above A and B (say) are the points of contact.
- 7) Join PA and PB.

What have I observed?

- 1) Length of PA = _____
- 2) Length of PB = _____

What have I learnt?

Length of PA _____ Length of PB (< / = / >)

What am I curious to learn?

Draw a right triangle ABC right angled at B with AB = 8 cm, BC = 6 cm. Draw a circle passing through A, B and mid-point P of AC. Then, draw a pair of tangents from the vertex C.

Let me evaluate myself

- 1) 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.

- 2) Draw a ΔABC is such that AB = 5 cm, BC = 6 cm & $\angle ABC = 60^\circ$, then construct a Δ whose sides are $\frac{3}{5}$ of the corresponding sides of ΔABC .

- 3) 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
