



# Silent Bells



ഫസ്റ്റ് ബെൽ - അനുബന്ധ പഠനസഹായകസാമഗ്രി

Class: 10

Subject: MATHS

Date: 04/12/2020

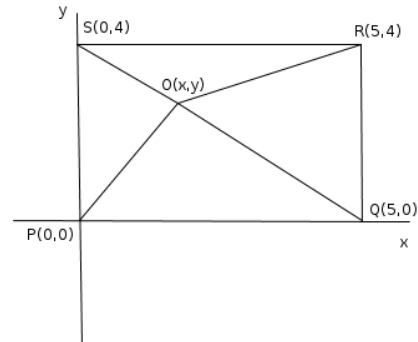
WorksheetNo: 61

Lesson : COORDINATES

ACTIVITY 1 :

$P(0,0)$  ,  $Q(5,0)$  ,  $R(5,4)$  ,  $S(0,4)$  are the co-ordinates of a rectangle PQRS.  $O(x,y)$  is a point inside the rectangle.

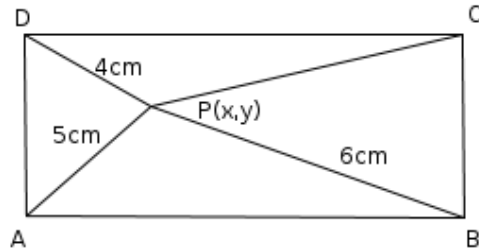
- Find the length and breadth.
- Find  $OP^2, OR^2$  .
- $OP^2 + OR^2 = \dots\dots\dots$
- Find  $OS^2, OQ^2$ .
- $OS^2 + OQ^2 = \dots\dots\dots$
- Check whether  $OP^2 + OR^2 = OQ^2 + OS^2$



ACTIVITY 2 :

Let  $P(x,y)$  be a point inside the rectangle ABCD and the distance from this point to three consecutive vertices are 4cm,5cm and 6cm. Then find :

- $PA^2$
- $PB^2$
- $PD^2$
- $PB^2 + PD^2$
- $PC^2$
- $PC^2 + PA^2$



ACTIVITY 3 :

A circle is passing through the points  $(9,3), (7,-1)$  and  $(1,-1)$ .

- Find the co-ordinates of the centre of the circle?
- Find the radius of the circle?

Click / Scan for class video





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Class: X

Subject: MATHS

Date: 07/12/2020

Worksheet No: 62

## TANGENTS

LO:

\* The tangent at a point on a circle is perpendicular to the diameter through that point.

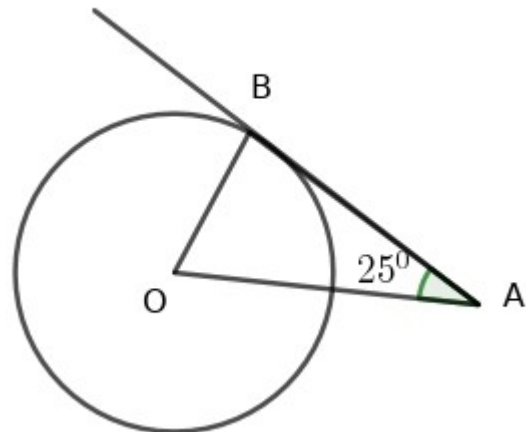
\* The quadrilateral with vertices at the centre of a circle, two points on it and the points where the tangents at these points meet, is cyclic.

\* In a circle, the angles between the radii through two points and the angle between the tangents at these points are supplementary.

### Activity 1.

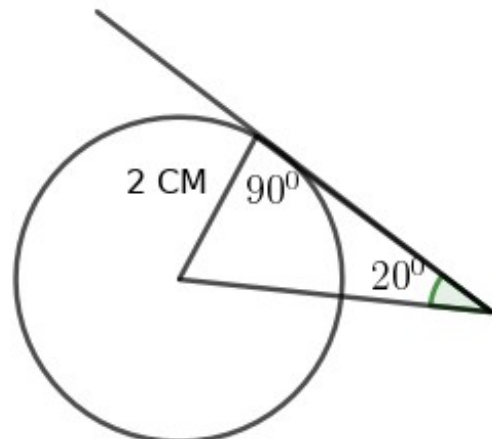
In the figure O is the centre and AB is the tangent through B. If  $\angle A = 25^\circ$  then find,

- $\angle ABO$
- $\angle BOA$



### Activity 2.

Draw the picture with same measures in your note book .





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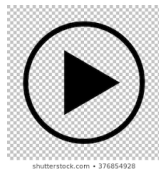
## ACTIVITY 3.

Draw a circle of radius 3 cm and draw an equilateral triangle exactly covering the circle.

## ACTIVITY 4.

Draw a circle of radius 2.5 cm. Draw a triangle of angles  $50^\circ, 60^\circ, 70^\circ$  with all its sides touching the circle.

PLAY FOR THE VIDEO



SCAN FOR THE VIDEO





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Class: 10

Subject: Mathematics

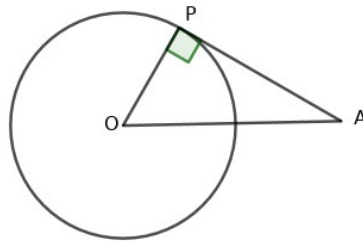
Date: 8/12/2020

Worksheet No: 63

## Lesson: TANGENTS



$$OA^2 = OP^2 + PA^2$$

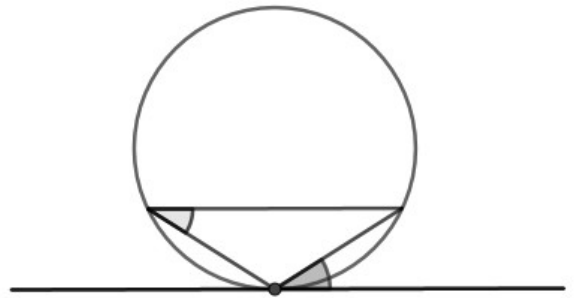


### Activity 1

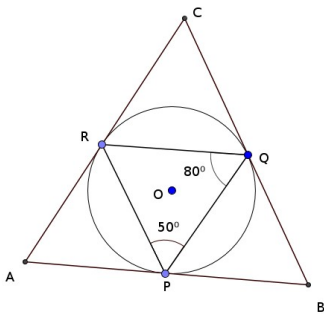
A tangent of length 15 cm is drawn from a point at a distance of 17 cm from the centre of a circle. Find the radius of the circle.



In a circle, the angle which a chord makes with the tangent at one end on any side is equal to the angle which it makes on the part of the circle on the other side.



### Activity 2

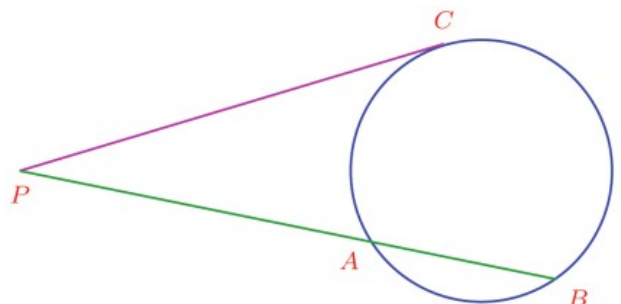


In the figure, sides of  $\triangle ABC$  touches the circle at P, Q and R.

- (a)  $\angle R = \dots\dots\dots$
- (b) Find the angles of  $\triangle ABC$ .



$$PA \times PB = PC^2$$





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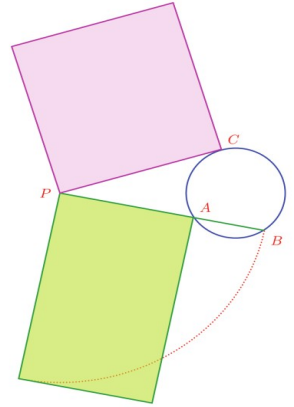


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### Activity 3

In the figure, if  $PA = 4$  cm and  $AB = 2$  cm then,

- (a)  $PB = \dots\dots\dots$  cm.
- (b) Area of rectangle =  $\dots\dots\dots$  sq.cm.
- (c) Area of square =  $\dots\dots\dots$  sq.cm.
- (d) One side of the square =  $\dots\dots\dots$  cm.



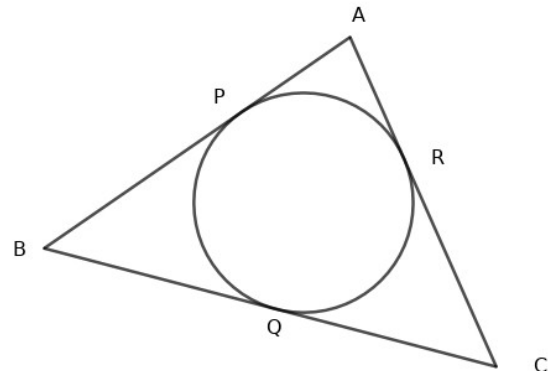
**The tangents to a circle from a point are of the same length.**

### Activity 4

Draw a circle of radius 3 cm. Mark a point P at a distance of 8 cm from the centre of the circle. Draw tangents from P to the circle. Measure the length of the tangents.

### Activity 5

In the figure circle touches the triangle at P,Q and R. If  $AB = 5$  cm , $BC = 7$  cm and  $AC = 6$  cm. Find PB, CQ and AR.



**Click or Scan for the class video**

CLASS 74

CLASS 75





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Class: 10

Subject: Mathematics

Date: 9-12-2020 &  
11-12-20

Worksheet No: 64

## Lesson: Tangents

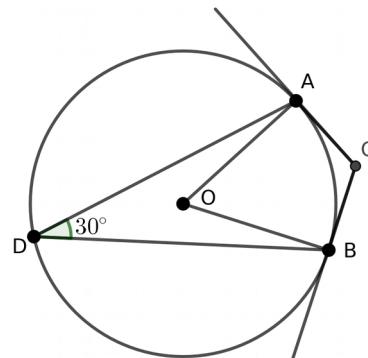
### Important points :

- In a circle, the angle which a chord makes with the tangent at one end on any side is equal to the angle which it makes on the part of the circle on the other side.
- If the lengths of the sides of triangle are  $a, b, c$ , then  $S = (a+b+c) / 2 = \text{Perimeter} / 2$   
Radius of incircle,  $r = A / S$ ,  $A$ - Area of the triangle.
- The circle touching all the sides of a triangle is called its incircle.

The bisectors of all three angles of a triangle meet at a point. This point is the centre of the incircle.

### Activity: 1

In the figure, CA and CB are tangents to the circle.  $\angle ADB = 30^\circ$ , Find the measures of  $\angle AOB$  &  $\angle ACB$ . Find all angles of the quadrilateral AOBC.







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## Activity: 2

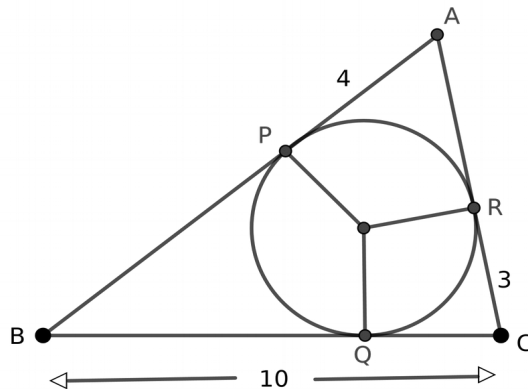
Draw a triangle of sides 5 cm, 6 cm and 7 cm.

Draw a circle which touches all sides of this triangle. Measure its radius.

## Activity: 3

The perpendicular sides of a right-angled triangle are of lengths 6 cm and 8 cm. Find its perimeter and area. Also calculate the radius of its incircle.

## Activity: 4



- a) In the figure,  $BC=10$  cm,  $CR=3$  cm,  $AP=4$  cm, then find the perimeter of the triangle.
- b) If the radius of its incircle is 3cm, find area of the triangle.



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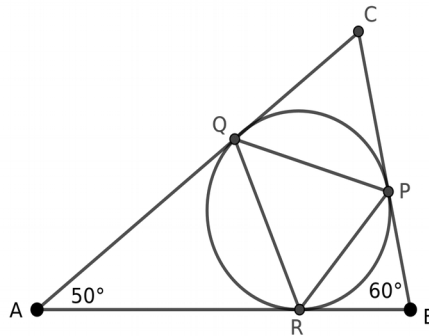
## Activity: 5

In the figure, the incircle of  $\triangle ABC$  touches its sides at the points P, Q and R.

a) Find the other angles of  $\triangle AQR$

b) What is the measure of  $\angle P$  in  $\triangle PQR$ ?

c) Find the other angles of  $\triangle PQR$



09-12-20

Link

QR Code



11-12-20

Link

QR Code

