# RD SHARMA

# Solutions

# Class 10 Maths

# Chapter 10

# Ex 10.1

**1. Fill in the blanks:**

**(i) The common point of tangent and the circle is called _____.**

**Soln: point of contact.**

**(ii) A circle may have _____ parallel tangent.**

**Soln : two**

**(iii) A tangent to a circle intersects it in _____ point.**

**Soln: one**

**(iv) A line intersecting a circle in two points is called a _____**

**Soln: secant.**

**(v) The angle between tangent at a point P on circle and radius through the point is _____**

**Soln: 90°.**

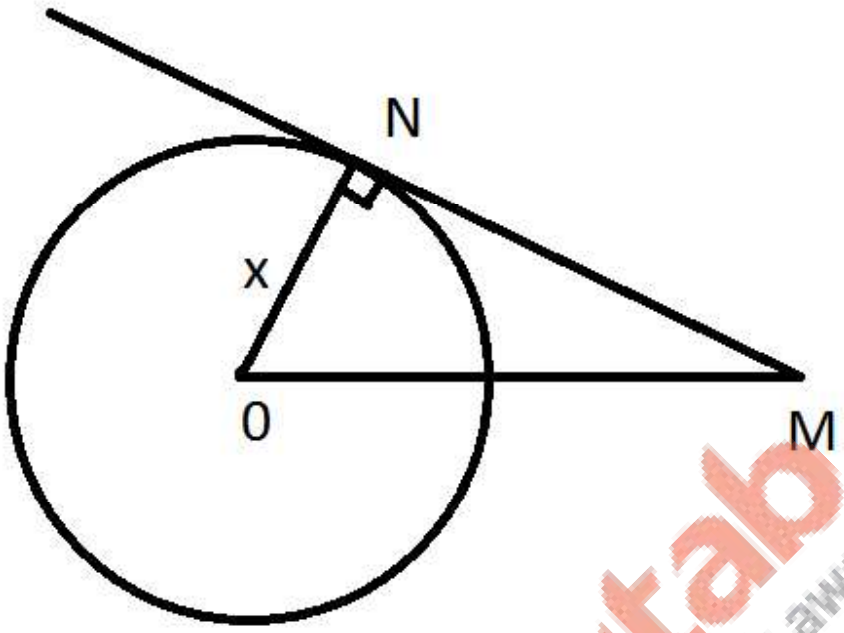
**Q 2. How many tangents can a circle have?**

**Ans:**

**Tangent:** a line intersecting circle in one point is called a tangent

As there are infinite number of points on the circle , a circle has many ( infinite ) tangents.

**Q 3. 'O' is the centre the circle shown below with a radius of 8 cm. The circle cuts the tangent AB through O at B such that AB = 15 cm. Find OB.**






**Ans:**

Given data : AB = 15 cm

OA = 8 cm ( radius of the circle )

We know that : the tangent cuts the circle at 90 degrees. Therefore, OA is the hypotenuse of the triangle OAB . Hence, the longest side can be found by using pythagoras Theorem.

We have,

OB = 17 cm

Therefore, OB = 17 cm

**Q 4. If the tangent at point P to the circle with centre O cuts a line through O at Q such that PQ = 24 cm and OQ = 25 cm . find the radius of the circle.**

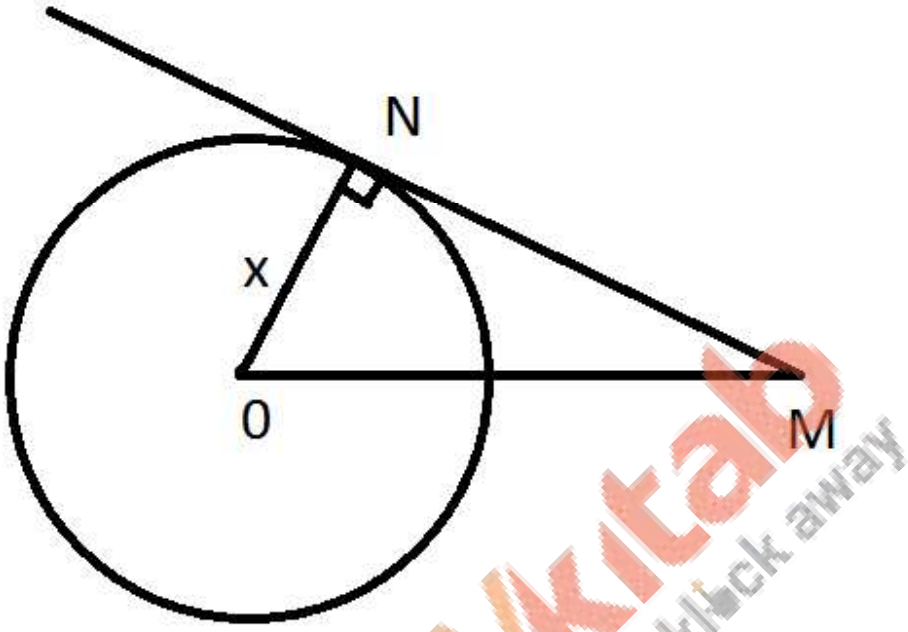
**Ans :**

given data:

PQ = 24 cm

OQ = 25 cm

OP = radius = ?






P is a point of contact , at point of contact , tangent and radius are perpendicular to each other.

Therefore triangle is right angled triangle angle OPQ = 90°

BY pythagoras theorem,

OP = 7 cm

Therefore , OP = radius = 7 cm