

EXPERIENTIAL LEARNING

SUBJECT: MATHEMATICS

CLASS: X

CHAPTER 10: CIRCLES

Curiosity Questions:

1. Have you seen a pulley fitted over a well which is used to take out water from the well?
2. If we consider the rope on both sides of the pulley as a ray, how can you relate it to the pulley?

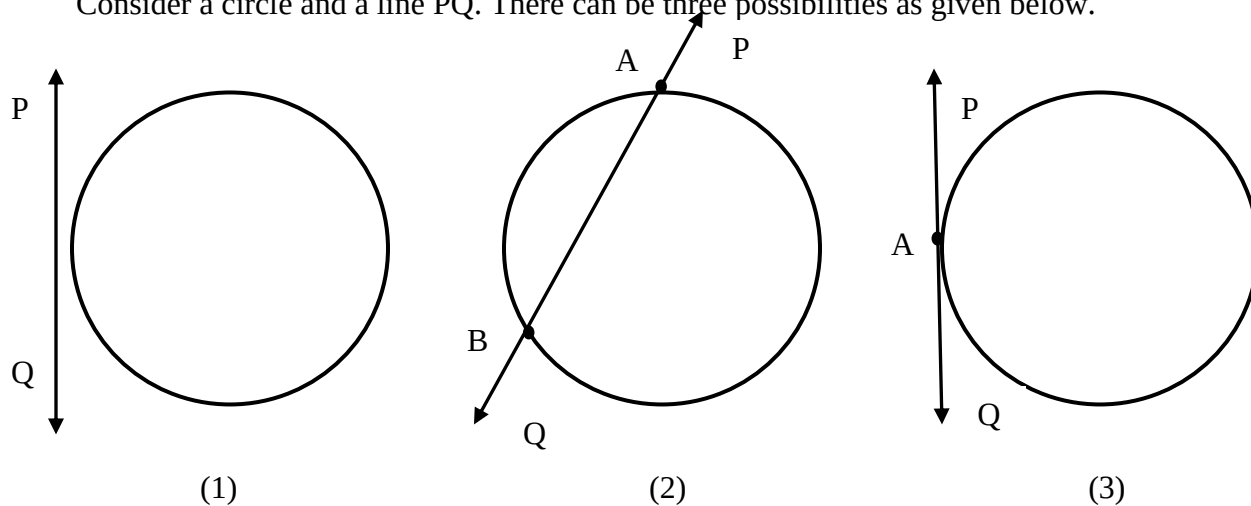
Answer Guide:

- Can you give examples of tangents in daily life?
- How many tangents can a circle have?
- How many parallel tangents a circle can have, at the most?

Concepts:

- A circle is a collection of all points in a plane which are at a constant distance (radius) from a fixed point (centre).
- Tangents to a circle and its properties

Consider a circle and a line PQ. There can be three possibilities as given below.



In figure (1), the line PQ and the circle have no common point. In this case, PQ is called a non-intersecting line with respect to the circle.

In figure (2), there are two common points A and B that the line PQ and the circle have. In this case, we call the line PQ a secant of the circle.

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In figure (3), there is only one point A which is common to the line PQ and the circle. In this case the line is called a tangent to the circle.

Tangent to a circle is a line that intersects the circle at only one point.

There is only one tangent at a point of the circle.

The tangent at any point of a circle is perpendicular.

The above concepts are clearly demonstrated with the help of the below video link –

<https://www.youtube.com/watch?v=htQ9vH4HEWc>