Name _____

Tangent Lines of a Circle

Date _____ Period _____

What is a Tangent?

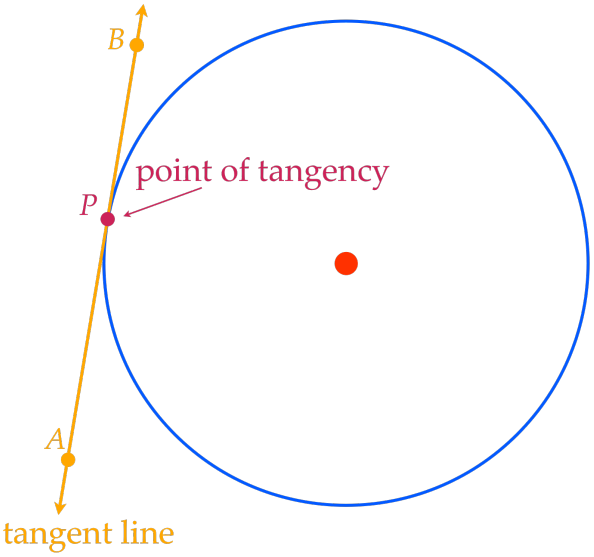
A tangent line is a line that intersects the circle at one point.

The point of intersection between a circle and the tangent line is called the point of tangency.

$\overleftrightarrow{AB}$ is a tangent line.

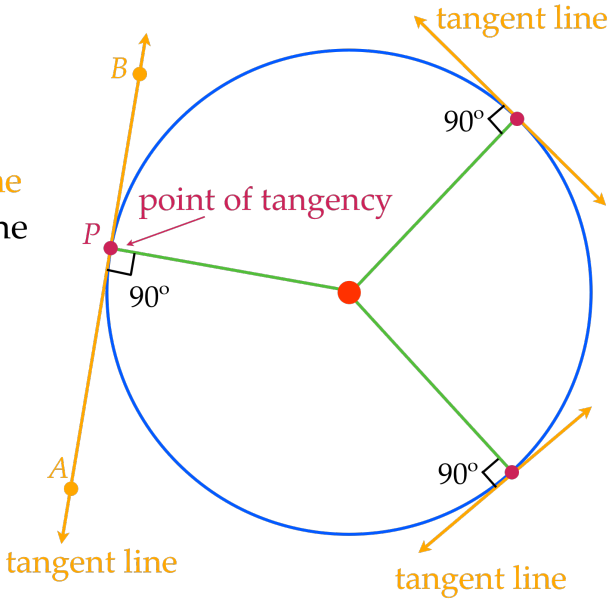
$\overrightarrow{PB}$ is a tangent ray.

$\overline{PA}$ is a tangent segment.



Tangent Theorem

If a line is tangent to a circle, then that line is perpendicular to the radius drawn to the point of tangency.

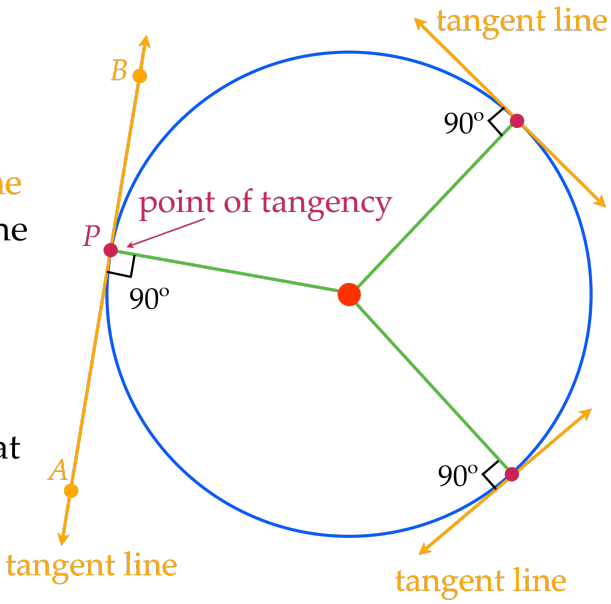


Tangent Theorem

If a line is tangent to a circle, then that line is perpendicular to the radius drawn to the point of tangency.

Tangent Theorem Converse

If a line is perpendicular to the radius drawn to the point of tangency, then that line is tangent to the circle.



Segment Tangent Theorem

if two segments are tangent to a circle from the same point outside the circle, then they are congruent segments.

$\overline{XY}$ is a tangent segment.
$\overline{XZ}$ is a tangent segment.

$\overline{XY} \cong \overline{XZ}$