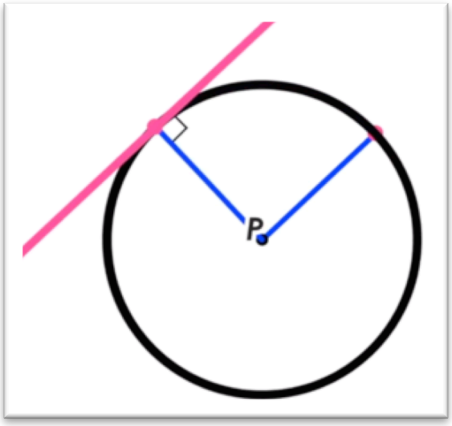
Name: _____

Lesson Guide

This lesson guide accompanies the following video lesson:



Circles and Tangent Lines

▶ **Key Questions and Info:**

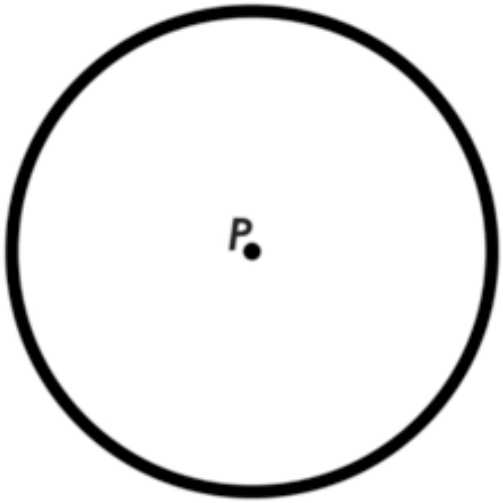
For a given set of data…

1.) **What is the relationship between circles and tangent lines?**

2.) **What is a tangent line to a circle?**

A tangent line intersects a circle at exactly _____ point.

On the circle below, with center point P, construct a second point T that is on the circle. Then draw a tangent line through the point. Finally, construct line PT:



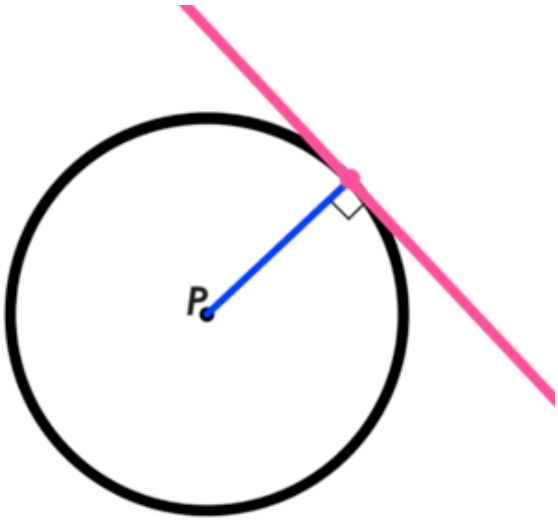
$\overline{PT}$ is a [ ]

$m\angle PTJ =$ [ ]

A tangent line is [ ] to a circle's radius.

KEY TAKEAWAYS

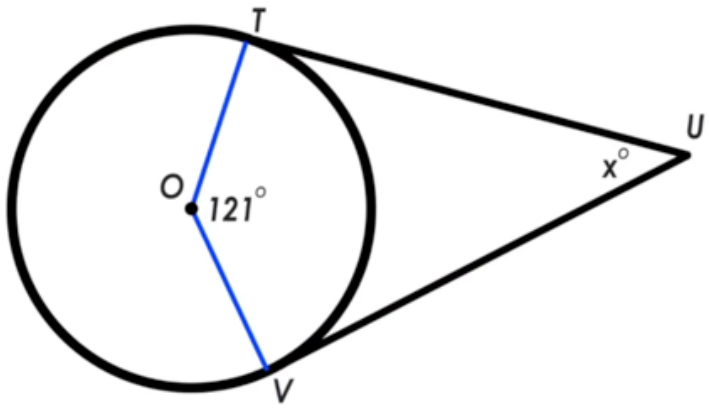
- A tangent line intersects a circle at exactly one point.
- A tangent line and the radius it intersects are perpendicular.



Tangent Line to Circle

PRACTICE PROBLEM

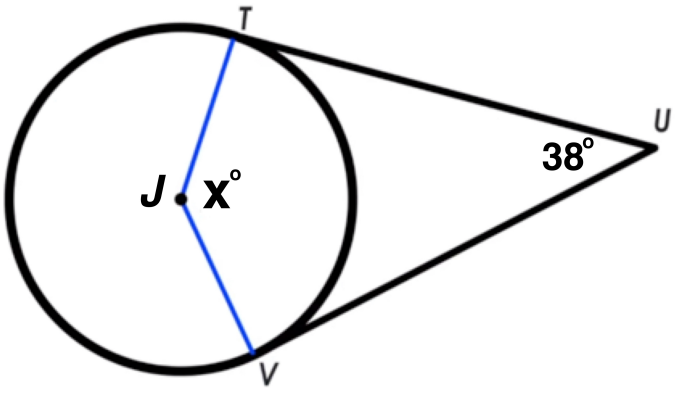
Practice: $\overline{UT}$ and $\overline{UV}$ are tangent to Circle O. What is the value of x?



X =

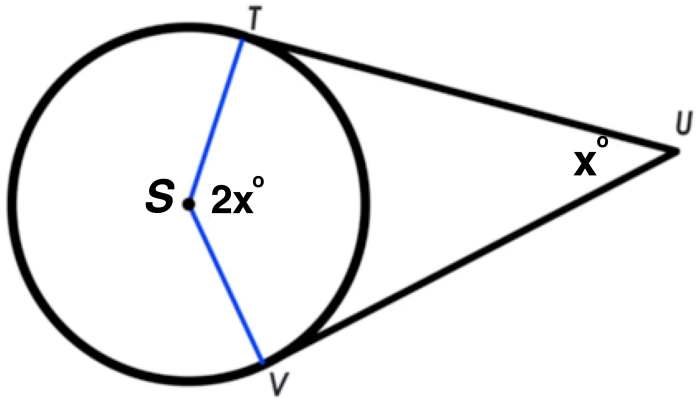
YOUR TURN!

2.) *Practice:* $\overline{UT}$ and $\overline{UV}$ are tangent to Circle J. What is the value of x?



$x =$ ____

3.) *Practice:* $\overline{UT}$ and $\overline{UV}$ are tangent to Circle S. What is the value of x?



$x =$ ____

ANSWER KEY

1.) $x = 59^{\circ}$
2.) $x = 142^{\circ}$
3.) 2x + x = 180 >>> x = 60