## Circles Worksheet 4 - Answers

1. How many points does a tangent have in common with a circle? 1
2. How many lines can be drawn tangent to a circle at a single point on that circle?
1
3. How many tangents may be drawn to a circle from a point outside the circle? 2
4. What is the angle created by a tangent and the radius of a circle? $90^{\circ}$
5. What is the relationship between two tangents drawn end either endpoint of a circle's diameter?
The tangents are parallel to each other.
6. Two tangents are drawn from a shared exterior point $A$ to a circle. The points
of tangency are $B$ and $C$. What is the relationship between $\overline{A B}$ and $\overline{A C}$ ?
$\overline{A B} \cong \overline{A C}$
7. Two tangents are drawn from a shared exterior point $A$ to $\odot O$. The points of tangency are $B$ and $C$. What is the relationship between $\angle O A B$ and $\angle O A C$ $\angle O A B \cong \angle O A C$
8. What is the relationship between two tangents drawn to radii with a central angle between them of $90^{\circ}$ ?
The tangents are perpendicular to each other.
9. If a regular polygon is circumscribed about a circle, what is the relationship between the sides of the polygon and the circle?
All sides of the polygon are tangent to the circle.
10. Point A is on the exterior of $\odot O$ and point $B$ is on $\odot O$. If $A B=5, B O=12$, and $A O=13$, is $\overline{A B}$ a tangent to $\odot O$ ? Yes, because $\triangle A B O$ is a right triangle.
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