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°

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 $\overline{AB}$ and $\overline{AC}$?
   $\overline{AB} \cong \overline{AC}$

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 $\angle OAB$ and $\angle OAC$
   $\angle OAB \cong \angle OAC$

8. What is the relationship between two tangents drawn to radii with a central angle between them of 90°?
   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 $AB = 5$, $BO = 12$, and $AO = 13$, is $\overline{AB}$ a tangent to $\odot O$?
    Yes, because $\triangle ABO$ is a right triangle.