**Unit 6: Circles Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Day 7 Tangent Lines (PH 11-1) Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_Hour: \_\_\_**

**Theorem 11 – 3**

The two segments that are tangent to a circle

from a point outside the circle are congruent.

**Example 1:** $\overbar{QS }$and $\overbar{QT }$are tangent to ʘ*O* at points *S* and *T*, respectively. Give a convincing argument why the diagonals of quadrilateral *QSOT* are perpendicular.



**Example 2:** ʘ*C* is inscribed in quadrilateral *XYZW*. Find the perimeter of *XYZW*.



The polygon above is said to ***circumscribe*** the circle. It is tangent to the circle along each edge of the figure. The circle is said to be ***inscribed*** in the polygon. It is inside and connects at the points of tangency.

**Example 3:** Is the polygon inscribed in or circumscribed about the circle?

 a. b. 



 c. d.

**Example 4:** Find the radius of the circle inscribed in a right triangle with sides 3in, 4in, and 5 in.

**Homework**: pages 586 – 587 # 13 – 22 all, and 31