Lesson 6.1 • Tangent Properties

1. Rays $r$ and $s$ are tangents. $w = 126^\circ$

2. $\overline{AB}$ is tangent to both circles and $m\angle AMC = 295^\circ$, $m\angle BQX = 65^\circ$

3. $\overline{PQ}$ is tangent to two externally tangent noncongruent circles, $M$ and $N$.
   a. $m\angle NQP = 90^\circ$, $m\angle MPQ = 90^\circ$
   b. What kind of quadrilateral is $\overline{MNQP}$? Explain your reasoning.

4. $\overline{AT}$ is tangent to circle $P$. Find the equation of $\overline{AT}$.

5. $\overline{PA}$, $\overline{PB}$, $\overline{PC}$, and $\overline{PD}$ are tangents.
   Explain why $\overline{PA} \cong \overline{PD}$.

6. Circle $A$ has diameter 16.4 cm. Circle $B$ has diameter 6.7 cm.
   a. If $A$ and $B$ are internally tangent, what is the distance between their centers? $4.85 \text{ cm}$
   b. If $A$ and $B$ are externally tangent, what is the distance between their centers? $11.55$

7. Construct a circle, $P$. Pick a point, $A$, on the circle. Construct a tangent through $A$. Pick a point, $T$, on the tangent. Construct a second tangent to the circle through $T$. 

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