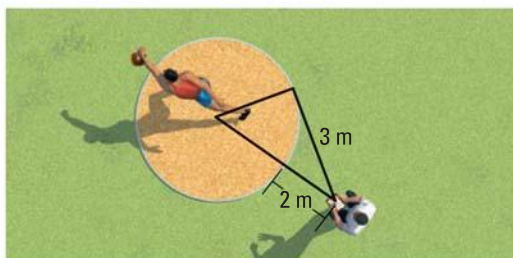


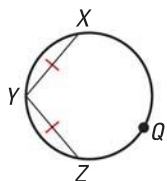


Lessons 10.1–10.5

1. **MULTI-STEP PROBLEM** An official stands 2 meters from the edge of a discus circle and 3 meters from a point of tangency.



- Find the radius of the discus circle.
 - How far is the official from the center of the discus circle?
2. **GRIDDED ANSWER** In the diagram, $\overline{XY} \cong \overline{YZ}$ and $m\widehat{XQZ} = 199^\circ$. Find $m\widehat{YZ}$ in degrees.



3. **MULTI-STEP PROBLEM** A wind turbine has three equally spaced blades that are each 131 feet long.

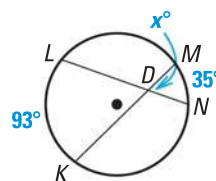


- What is the measure of the arc between any two blades?
- The highest point reached by a blade is 361 feet above the ground. Find the distance x between the lowest point reached by the blades and the ground.
- What is the distance y from the tip of one blade to the tip of another blade? Round your answer to the nearest tenth.

4. **EXTENDED RESPONSE** The Navy Pier Ferris Wheel in Chicago is 150 feet tall and has 40 spokes.



- Find the measure of the angle between any two spokes.
 - Two spokes form a central angle of 72° . How many spokes are between the two spokes?
 - The bottom of the wheel is 10 feet from the ground. Find the diameter and radius of the wheel. *Explain* your reasoning.
5. **OPEN-ENDED** Draw a quadrilateral inscribed in a circle. Measure two consecutive angles. Then find the measures of the other two angles algebraically.
6. **MULTI-STEP PROBLEM** Use the diagram.



- Find the value of x .
 - Find the measures of the other three angles formed by the intersecting chords.
7. **SHORT RESPONSE** Use the diagram to show that $m\widehat{DA} = y^\circ - x^\circ$.

