

10.2. Honors Geometry

DATE: 4/25

Target 9A. Know and apply the properties of tangents, secants, chords, and arcs

Chords of a Circle

If **two chords are equidistant from the center**, then they are \cong .

Given: $\odot D, \overline{DC} \perp \overline{BA}, \overline{DF} \perp \overline{EG}, \overline{CD} \cong \overline{FD}$ Diagram:

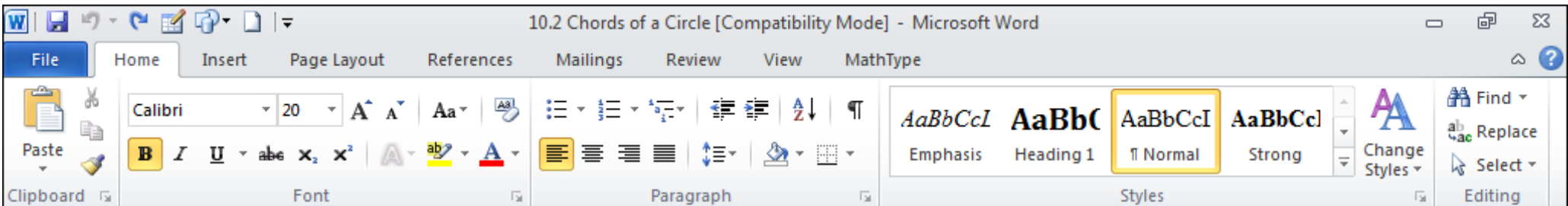
Prove: $\overline{BC} \cong \overline{EG}$ "The proof is left as an exercise"

reverse →

Write the converse of the conditional statement above.

If two chords are \cong , then they are equidistant from the center.

Given: Diagram:



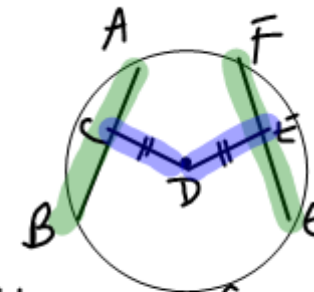
Prove:



Write the converse of the conditional statement above.

If two chords are \cong , then they are equidistant from center.

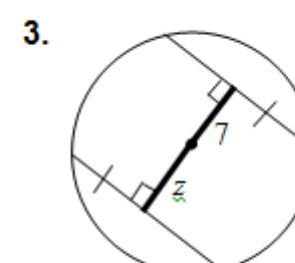
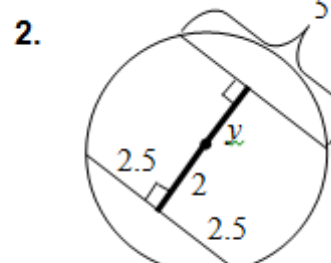
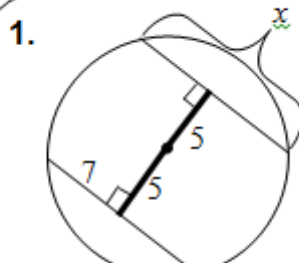
Given: $\odot D, \overline{AB} \perp \overline{CD}, \overline{FG} \perp \overline{DE}, \overline{AB} \cong \overline{FG}$ Diagram:

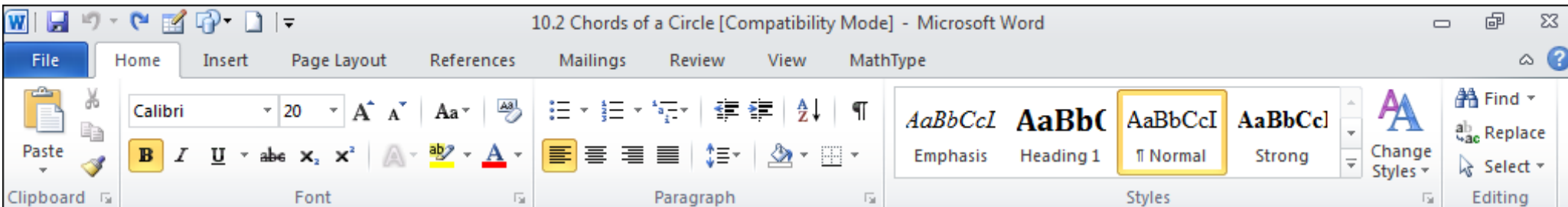


Prove: $\overline{CD} \cong \overline{DE}$

* We did a wheelwright activity to discover the truth of this statement.

Find the value of the variable. Be prepared to justify your answer.

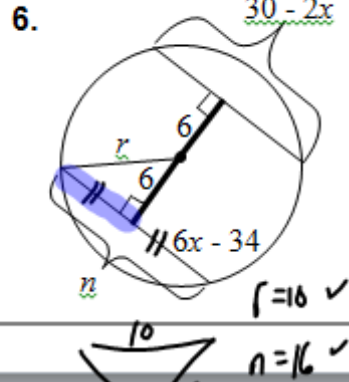
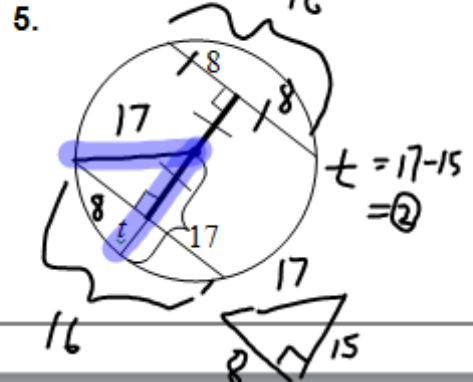
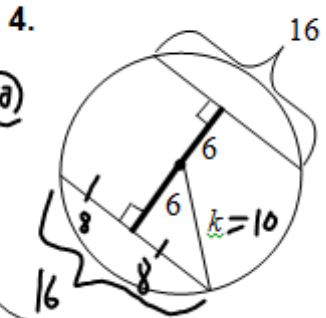
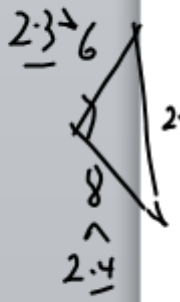
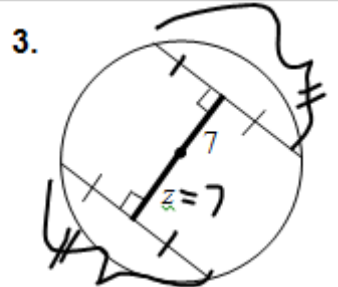
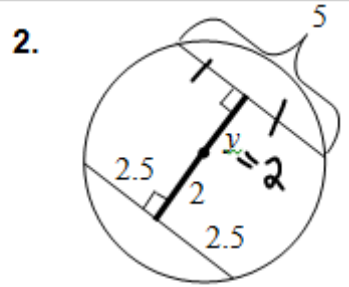
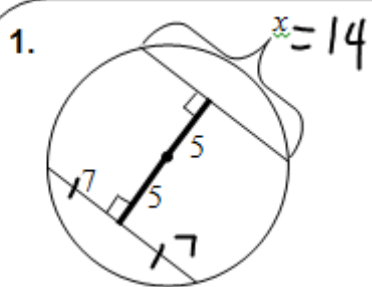




Prove:

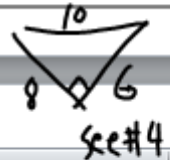


Find the value of the variable. Be prepared to justify your answer. → See me for justifications



$$\begin{aligned}
 30 - 2x &= 2(6x - 34) \\
 30 - 2x &= 12x - 68 \\
 + 2x \quad + 2x & \\
 \hline
 30 &= 14x - 68 \\
 + 68 \quad + 68 & \\
 \hline
 98 &= 14x \\
 \frac{98}{14} &= \frac{14x}{14} \\
 7 &= x
 \end{aligned}$$

Pyth. Tri. pk (8, 15, 17)



$6(7) - 34 = 42 - 34 = 8$