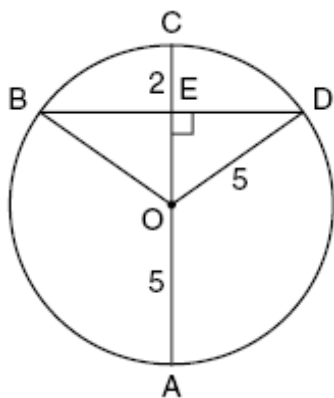


NAME: _____

G.G.49: Investigate, justify, and apply theorems regarding chords of a circle: perpendicular bisectors of chords; the relative length of chords as compared to their distance from the center of the circle

1. fall0811ge, P.I. G.G.49

In the diagram below, circle O has a radius of 5, and $CE = 2$. Diameter \overline{AC} is perpendicular to chord \overline{BD} at E .

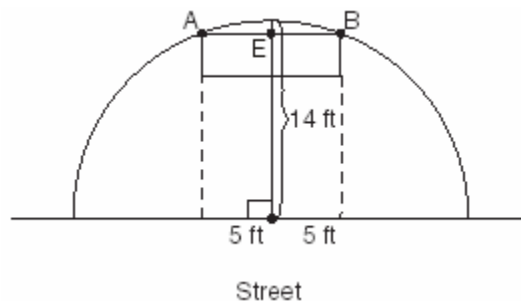


What is the length of \overline{BD} ?

- [A] 4 [B] 12 [C] 10 [D] 8

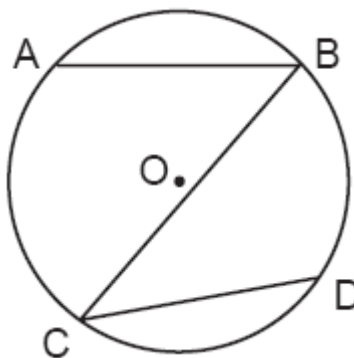
2. 080124b P.I. G.G.49

The accompanying diagram shows a semicircular arch over a street that has a radius of 14 feet. A banner is attached to the arch at points A and B , such that $AE = EB = 5$ feet. How many feet above the ground are these points of attachment for the banner?



3. 060811b, P.I. G.G.49

In the accompanying diagram of circle O , $\widehat{AB} \cong \widehat{CD}$.



Which statement is true?

- [A] $\overline{AB} \cong \overline{CD}$ [B] $\overline{AB} \parallel \overline{CD}$
[C] $\widehat{AC} \cong \widehat{BD}$ [D] $\angle ABC \cong \angle BCD$

G.G.49: Investigate, justify, and apply theorems regarding chords of a circle: perpendicular bisectors of chords; the relative length of chords as compared to their distance from the center of the circle

[1] D _____

[2] $\sqrt{171}$ or 13 or 13.1 or 13.08 or an equivalent answer, and appropriate work is shown, such as the use of the equation of a circle ($x^2 + y^2 = r^2$) or the Pythagorean theorem.

[1] Appropriate work is shown, but one computational error is made.

or [1] Incorrect analysis is shown, such as $x = 5$ and $y = 14$, but the work is concluded appropriately.

or [1] A correct answer is found, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[2] incorrect procedure. _____

[3] A _____