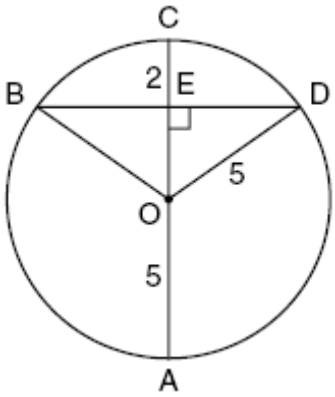
NAME:_____

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.

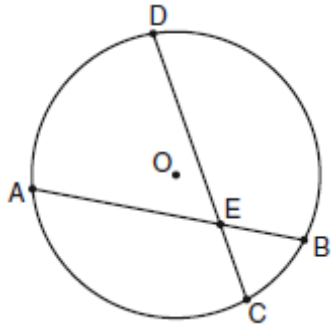


What is the length of $\overline{BD}$?

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

2. 080923ge, P.I. G.G.53

In the diagram of circle O below, chord $\overline{AB}$ intersects chord $\overline{CD}$ at E, $DE = 2x + 8$, $EC = 3$, $AE = 4x - 3$, and $EB = 4$.



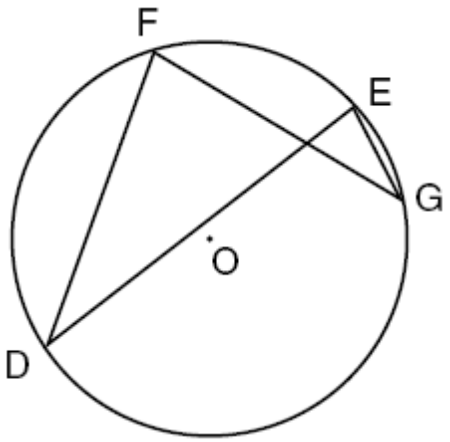
What is the value of x?

[A] 1 [B] 5 [C] 10.25 [D] 3.6

NAME:_____

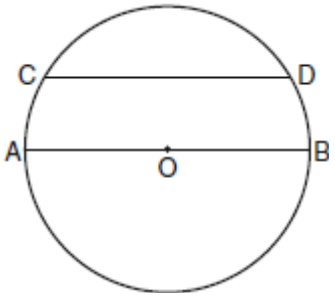
3. fall0836ge, P.I. G.G.51

In the diagram below of circle O, chords $\overline{DF}$, $\overline{DE}$, $\overline{FG}$, and $\overline{EG}$ are drawn such that $m\overset{\frown}{DF} : m\overset{\frown}{FE} : m\overset{\frown}{EG} : m\overset{\frown}{GD} = 5 : 2 : 1 : 7.$ Identify one pair of inscribed angles that are congruent to each other and give their measure.



4. 080904ge, P.I. G.G.52

In the diagram of circle O below, chord $\overline{CD}$ is parallel to diameter $\overline{AOB}$ and $m\overset{\frown}{AC} = 30.$

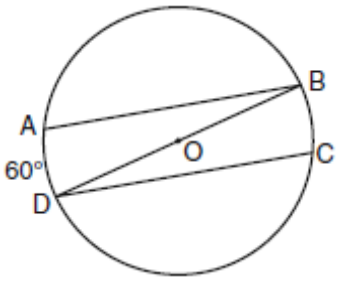


What is $m\overset{\frown}{CD}$?

[A] 150 [B] 120 [C] 100 [D] 60

5. 060906ge, P.I. G.G.52

In the diagram of circle O below, chords $\overline{AB}$ and $\overline{CD}$ are parallel, and $\overline{BD}$ is a diameter of the circle.



If $m\overset{\frown}{AD} = 60,$ what is $m\angle CDB$?

[A] 60 [B] 120 [C] 20 [D] 30

[1] A

[2] D

[4] $\angle D$ and $\angle G$ and 24, or $\angle E$ and $\angle F$ and 84, and appropriate work is shown.
[3] Appropriate work is shown, but one computational error is made.
or [3] The measure of at least one inscribed angle is found correctly, and appropriate work is shown, but a pair of angles is not identified or is identified incorrectly.
[2] Appropriate work is shown, but two or more computational errors are made.
or [2] Appropriate work is shown, but one conceptual error is made.
or [2] Appropriate work is shown to find the measures of all four arcs, but no further correct work is shown.
[1] Appropriate work is shown, but one conceptual error and one computational error are made.
or [1] One pair of inscribed angles is correctly identified, but no further correct work is shown.
or [1] Appropriate work is shown to find $x = 24$, the measure of $\widehat{EG}$, but no further correct work is shown.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously
[3] incorrect procedure.

[4] B

[5] D