

Geometry Chapter 10 Test

Name: _____

Instructions: Clearly indicate your answer with a box. *Show your work!* You will receive partial credit depending on how you set up the problem, even if the answer is incorrect.

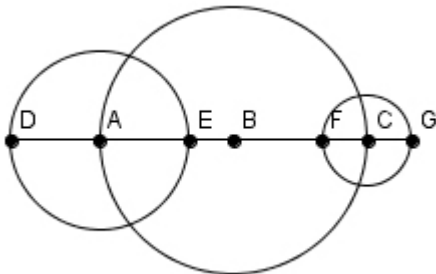
1. The radius of a circle is 5. What is its diameter? (2pt)

- (a) 10π
- (b) 10
- (c) 2.5
- (d) $5\sqrt{2}$

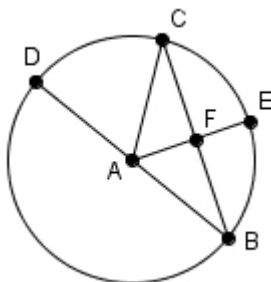
2. What is the diameter of a circle with a circumference of 2π ? (2pt)

- (a) 2
- (b) 4
- (c) $2\sqrt{2}\pi$
- (d) 1

3. The circles shown have these radii: $\odot A = 2$; $\odot B = 3$; $\odot C = 1$. What is the length of \overline{EF} ? (3pt)

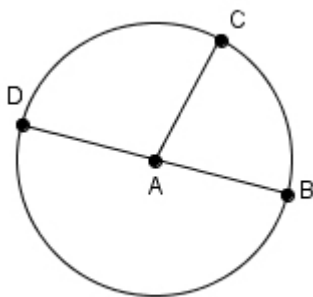


4. Which of the following statements is *false*? (2pt)



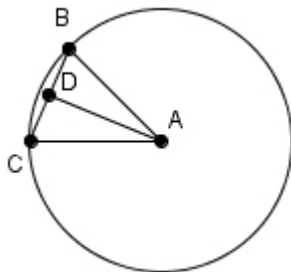
- (a) \overline{BD} is a chord of $\odot A$.
- (b) $m\widehat{CD} + m\widehat{CE} = m\widehat{DE}$.
- (c) $m\angle CBA = 2 \cdot m\angle CAD$.
- (d) If $\overline{AE} \perp \overline{CB}$, then $\overline{CF} \cong \overline{BF}$.

5. \overline{BD} is a diameter of $\odot A$. If $m\widehat{BC} = 2x$ and $m\widehat{CD} = 3x - 5$, what is x ? (3pt)

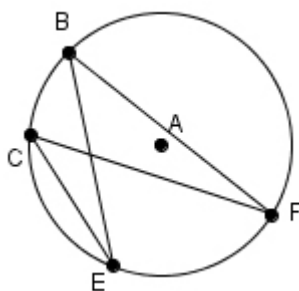


6. The diameter of $\odot A$ in question 5 is 4. What is the length of \widehat{CD} ? (3pt)

7. The radius of $\odot A = 13$. The length of $\overline{BC} = 10$, and $\overline{AD} \perp \overline{BC}$. What is the length of \overline{AD} ? (3pt)

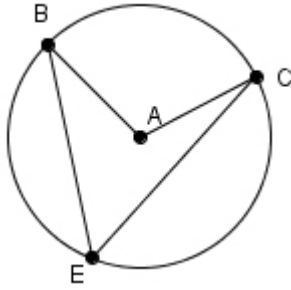


8. $m\angle F = 20^\circ$. What is $m\angle E$ (3pt)?

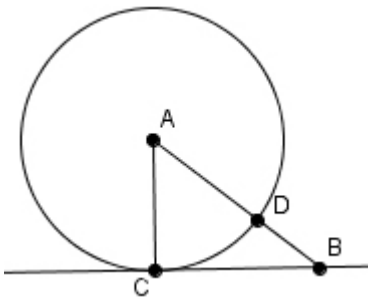


- (a) 20°
- (b) 40°
- (c) 10°
- (d) It is impossible to determine.

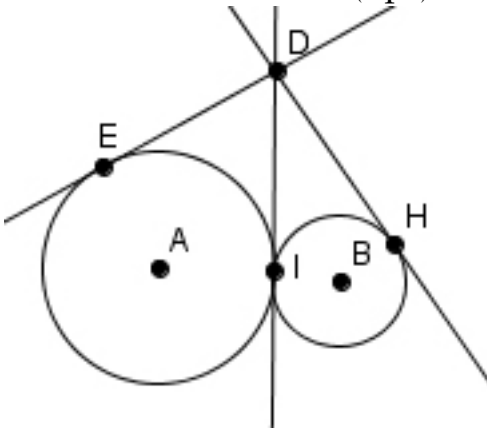
9. $m\angle E = 2x - 3$; $m\angle A = 3x + 3$. What is x ? (3pt)



10. $m\overline{BD} = 6'$, the diameter of $\odot A = 18'$, and \overline{BC} is tangent to $\odot A$. What is the length of \overline{BC} ? (3pt)

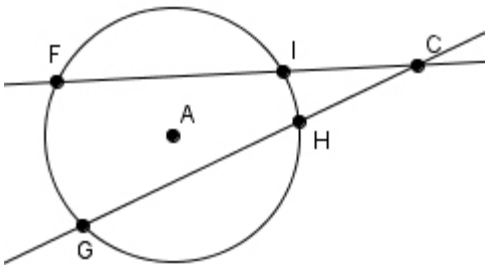


11. \overline{DE} , \overline{DI} , and \overline{DH} are tangents to $\odot A$ and $\odot B$. If $m\overline{DE} = 4x$ and $m\overline{DH} = 2x + 5$, what is $m\overline{DI}$? (3pt)



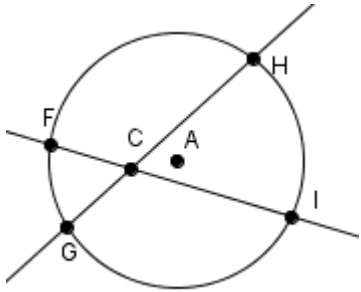
- (a) 2.5
- (b) 5
- (c) 10
- (d) 20

12. $m\widehat{FG} = 70^\circ$; $m\widehat{HI} = 24^\circ$. What is $m\angle ICH$? (2pt)



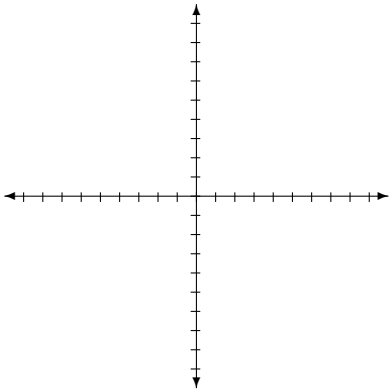
- (a) 94°
- (b) 47°
- (c) 23°
- (d) 35°

13. $m\widehat{FG} = 38^\circ$; $m\widehat{HI} = 80^\circ$. What is $m\angle FCH$? (3pt)



14. Write the equation for a circle with a center at $(-1, 2)$ and a diameter of 6. (2pt)

15. Sketch the circle with the equation $(x + 1)^2 + (y - 2)^2 = 4$. (3pt)



16. **OPTIONAL BONUS PROBLEM:** A circle's center is in quadrant II. The circle has a diameter of $3z$ and tangents of $x = z$ and $y = 2(z - 1)$. If the tangents meet at the point (z, z) , sketch the circle. (4pt)

