Inscribed angles pop quiz

Multiple Choice Questions (MCQ)

1. In a circle, an inscribed angle is always equal to:
   A) Half the measure of the central angle
   B) Double the measure of the central angle
   C) The same as the central angle
   D) A quarter of the central angle

Answer: A

2. If an inscribed angle intercepts a semicircle, what is the measure of the inscribed angle?
   A) 45°
   B) 60°
   C) 90°
   D) 180°

Answer: C

3. If the measure of an inscribed angle is 30°, what is the measure of the intercepted arc?
   A) 30°
   B) 60°
   C) 90°
   D) 120°

Answer: B

4. Two inscribed angles intercept the same arc in a circle. If one angle is 40°, what is the measure of the other angle?
   A) 20°
   B) 40°
   C) 80°
   D) 100°

Answer: B

5. In a circle, one inscribed angle measures 45° and intercepts an arc of 90°. What is the measure of a different inscribed angle intercepting the same arc?
   A) 30°
   B) 45°
   C) 60°
   D) 90°

Answer: B

Free Response Questions

6. If the central angle in a circle is 120°, what is the measure of the inscribed angle intercepting the same arc?
   Answer:
   The inscribed angle measures 60°.

7. An inscribed angle intercepts an arc of 140°. What is the measure of the inscribed angle?
   Answer:
   The inscribed angle measures 70°.

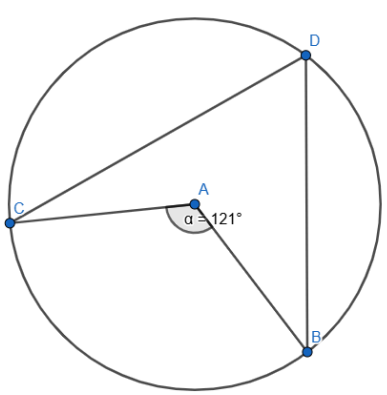
8. Find the measure of an inscribed angle that intercepts a 180° arc. Explain your reasoning.
   Answer:
   The inscribed angle is half of the intercepted arc.
   Since it intercepts a semicircle, the inscribed angle measures 90°.

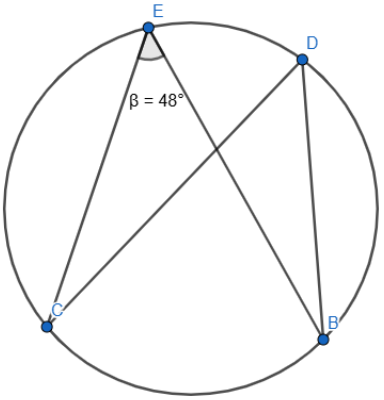
9. In a circle, angle ABC is an inscribed angle that intercepts an arc of 80°. What is the measure of angle ABC?
   Answer:
   The measure of angle ABC is 40°.

10. Two inscribed angles intercept the same arc of 100°. If one of the inscribed angles measures 50°, find the measure of the other inscribed angle and explain why.
    Answer:
    Both inscribed angles intercept the same arc, so they are equal.
    The other inscribed angle also measures 50°.

11. An inscribed angle in a circle intercepts an arc that measures 120°. What is the measure of the inscribed angle?
    Answer:
    The inscribed angle is half of the intercepted arc.
    The inscribed angle measures 60°.

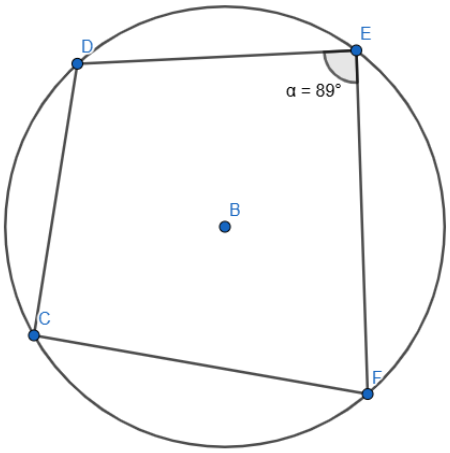
12. Find $\angle CDB$ of each graph.





60.5°; 48°

13. Find $\angle DCF$ of each graph.



91°