Circle theorems: inscribed and central angles worksheet – Grade 9

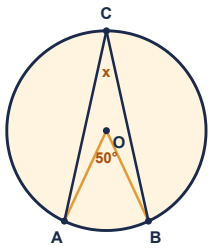
Grade 9 · Mixed level · 20 questions · **Version X3367**

Name: _____ Date: _____ Score: ___ / 20

Scan to check answers + earn stars

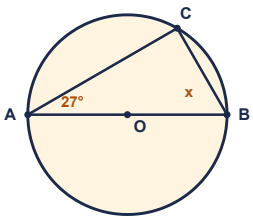
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1. O is the centre. The central angle is 50°. Find the inscribed angle x, in degrees.



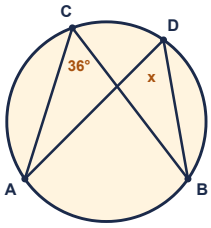
Answer: _____ °

2. AB is a diameter and ∠A = 27°. Find ∠B, in degrees.



Answer: _____ °

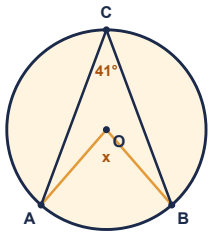
3. C and D are on the same arc. ∠ACB = 36°. Find ∠ADB, in degrees.



Answer: _____ °

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4. O is the centre. The inscribed angle is 41°. Find the central angle x, in degrees.

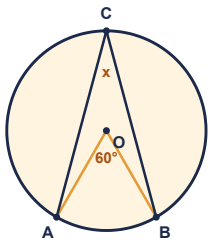


Answer: _____ °

5. Work out the size of an angle in a semicircle.

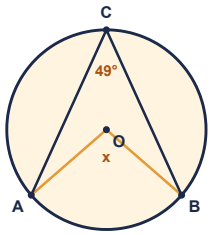
A. 90° **B.** 180° **C.** 60° **D.** 45°

6. O is the centre. The central angle is 60°. Find the inscribed angle x, in degrees.



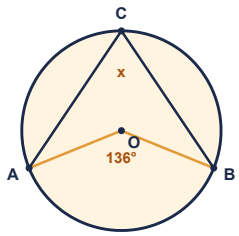
Answer: _____ °

7. O is the centre. The inscribed angle is 49°. Find the central angle x, in degrees.



Answer: _____ °

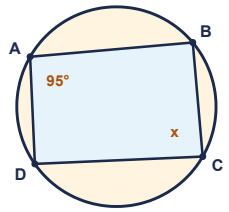
8. In the circle, the central angle is 136°. Triangle OAB is isosceles. What is ∠OAB, in degrees?



Answer: _____ °

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9. ABCD is a cyclic quadrilateral with ∠A = 95°. Find ∠C, in degrees.

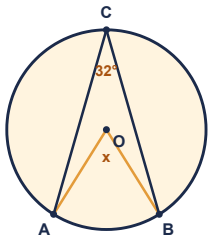


Answer: _____ °

10. The inscribed angle is (2x)° and the central angle on the same arc is 60°. Find x.

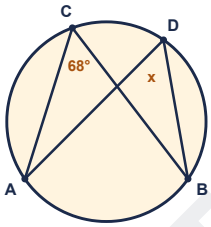
Answer: _____

11. A security camera at C on a round room's wall covers doors A and B at an angle of 32°. What angle would a camera at the centre need, in degrees?



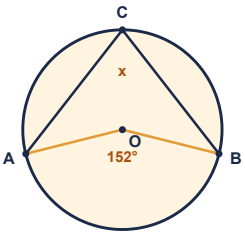
Answer: _____ °

12. A theatre seat at C on a circular wall sees a stage AB at 68°. Seat D is on the same arc. At what angle does D see the stage, in degrees?



Answer: _____ °

13. In the circle, the central angle is 152°. Triangle OAB is isosceles. What is ∠OAB, in degrees?



Answer: _____ °

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14. The inscribed angle is (3x)° and the central angle on the same arc is 102°. Find x.

    Answer: _____

15. An arc is 90° of a circle. What inscribed angle stands on it, in degrees?

    Answer: _____ °

16. A regular hexagon is inscribed in a circle. What angle does one side make at the opposite side of the circle, in degrees?

    Answer: _____ °

17. Three points divide a circle into arcs of 100°, 60° and 200°. What is the angle of the triangle opposite the 60° arc, in degrees?

    Answer: _____ °

18. A cyclic quadrilateral has opposite angles (4x + 40)° and (5x − 13)°. Find x.

    Answer: _____

19. A carpenter uses a set square with its corner touching a round table's edge, and marks where the two arms cross the edge. What does the line between the marks give?

    A. A diameter **B.** A radius **C.** A tangent **D.** An arc

20. Three points divide a circle into arcs of 100°, 120° and 140°. What is the angle of the triangle opposite the 120° arc, in degrees?

    Answer: _____ °

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Answer key · Version X3367

Circle theorems: inscribed and central angles worksheet – Grade 9 · Grade 9 · to reprint this sheet or check the answers, enter X3367 on the skill page.

1. **25**
2. **63**
3. **36**
4. **82**
5. **A (90°)**
6. **30**
7. **98**
8. **22**
9. **85**
10. **15**
11. **64**
12. **68**
13. **14**
14. **17**
15. **45**
16. **30**
17. **30**
18. **17**
19. **A (A diameter)**
20. **60**

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