

Areas Related to Circles Quiz

1. The formula for the circumference of a circle is:
 - A. (πd)
 - B. $(2\pi r)$
 - C. (πr^2)
 - D. $(\frac{1}{2}\pi d)$
2. If the diameter of a circle is 14 cm, the radius is:
 - A. 7 cm
 - B. 28 cm
 - C. 3.5 cm
 - D. 14 cm
3. The area of a sector of a circle with central angle (θ) (in degrees) and radius r is given by:
 - A. $(\frac{\theta}{360} \times \pi r^2)$
 - B. $(\frac{\theta}{180} \times \pi r)$
 - C. $(\theta \times \pi r^2)$
 - D. $(\theta \times \pi r)$
4. The length of an arc of a sector with central angle 150° and radius 10 cm is:
 - A. (25π) cm
 - B. (15π) cm
 - C. (10π) cm
 - D. (5π) cm
5. If the area of a circle is increased by 44%, its radius increases by:
 - A. 20%
 - B. 22%
 - C. 44%
 - D. 10%
6. What is the area of a semicircle with radius 8 cm? (Take $(\pi \text{ approx } 3.14)$)
 - A. 100.48 cm^2
 - B. 200.96 cm^2
 - C. 50.24 cm^2
 - D. 150.72 cm^2
7. To find the area of a segment of a circle, one must subtract the area of the _____ from the area of the sector.
 - A. Triangle
 - B. Square
 - C. Rectangle
 - D. Trapezoid
8. A chord of a circle divides the circle into two:
 - A. Sectors
 - B. Segments
 - C. Areas
 - D. Arcs

9. If two circles have radii in the ratio 1:3, the ratio of their areas is:

- A. 1:3
- B. 1:9
- C. 3:1
- D. 9:1

10. The circumference of a sector with a radius of 14 cm and a central angle of 60° is (include the arc and the two radii):

- A. $(14\pi + 28)$ cm
- B. $(7\pi + 14)$ cm
- C. $(28\pi + 14)$ cm
- D. $(14\pi + 14)$ cm

11. The area of a circle inscribed in a square of side 8 cm is:

- A. (16π) cm²
- B. (32π) cm²
- C. (64π) cm²
- D. (48π) cm²

12. A sector has an area of (15.7) cm² and a central angle of 45° . What is the radius of the circle?

- A. 4 cm
- B. 5 cm
- C. 6 cm
- D. 7 cm

13. If the radius of a circle is increased by 10%, then the area of the circle will increase by:

- A. 10%
- B. 21%
- C. 20%
- D. 31%

14. The area of a sector with a 90° angle in a circle of radius 6 cm is:

- A. (9π) cm²
- B. (18π) cm²
- C. (36π) cm²
- D. (12π) cm²

15. The area of a circle is (154 cm^2) . What is the length of the arc subtended by a 90° angle in this circle?

- A. (7π) cm
- B. (14π) cm
- C. (28π) cm
- D. (22π) cm

16. A square is inscribed in a circle. If the

side of the square is 6 cm, the area of the square is:

- A. 36 cm²
- B. 72 cm²
- C. 24 cm²
- D. 48 cm²

17. The formula for the area of a ring (circular region between two concentric circles) is:
- A. $(\pi (R^2 - r^2))$
 - B. $(2\pi (R + r))$
 - C. $(\pi (R + r)^2)$
 - D. $(\pi (R - r)^2)$
18. In a circle of radius 7 cm, the length of the longest chord is:
- A. 7 cm
 - B. 14 cm
 - C. 21 cm
 - D. None of the above
19. The central angle corresponding to an arc length equal to the radius of the circle is:
- A. 45°
 - B. 60°
 - C. 90°
 - D. 180°
20. If the circumference of a circle is 44 cm, the area of the circle is (Take $(\pi = \frac{22}{7})$):
- A. 154 cm^2
 - B. 121 cm^2
 - C. 484 cm^2
 - D. 308 cm^2

Areas Related to Circles Quiz Answer Key

- 1. B
- 2. A
- 3. A
- 4. B
- 5. B
- 6. A
- 7. A
- 8. B
- 9. B
- 10. B
- 11. C
- 12. B
- 13. B
- 14. B
- 15. A
- 16. A
- 17. A
- 18. B
- 19. B
- 20. A

Next, we'll move on to the quiz for "Surface Areas and Volumes." Let me know when you're ready, and I will provide it.