Areas Related to Circles Quiz

1. The formula for the circumference of a circle is:

A. ( pi d )

B. ( 2pi r )

C. ( pi r^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 ( theta ) (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. ( 25pi ) cm

B. ( 15pi ) cm

C. ( 10pi ) cm

D. ( 5pi ) 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 approx 3.14 ))

A. 100.48 cm²

B. 200.96 cm²

C. 50.24 cm²

D. 150.72 cm²

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. ( 14pi + 28 ) cm

B. ( 7pi + 14 ) cm

C. ( 28pi + 14 ) cm

D. ( 14pi + 14 ) cm

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

A. ( 16pi ) cm²

B. ( 32pi ) cm²

C. ( 64pi ) cm²

D. ( 48pi ) 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. ( 9pi ) cm²

B. ( 18pi ) cm²

C. ( 36pi ) cm²

D. ( 12pi ) 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. ( 7pi ) cm

B. ( 14pi ) cm

C. ( 28pi ) cm

D. ( 22pi ) 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. ( 2pi (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 cm²

B. 121 cm²

C. 484 cm²

D. 308 cm²

### 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.