

**TEST NAME: Area and Circumference Study Guide**  
**TEST ID: 2943332**  
**GRADE: 07 - Seventh Grade**  
**SUBJECT: Mathematics**  
**TEST CATEGORY: School Assessment**

## 03/08/19, Area and Circumference Study Guide

Student: \_\_\_\_\_

Class: \_\_\_\_\_

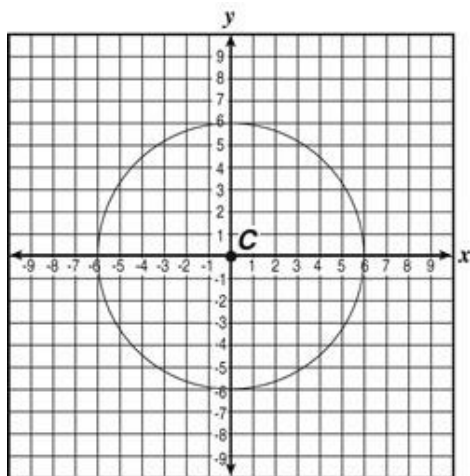
Date: \_\_\_\_\_

1. The circular opening of a vase has an inside diameter of 13.5 cm.



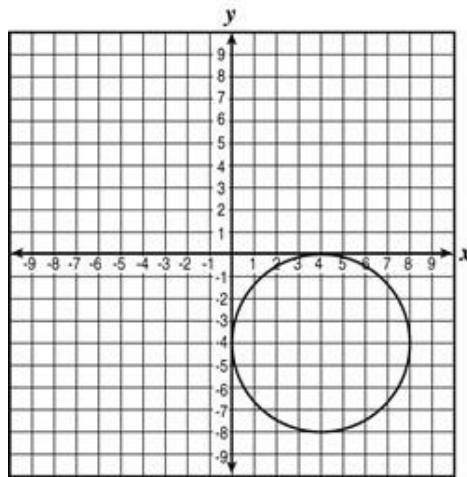
What is the approximate area of this circular opening? (Use  $\pi = 3.14$ .)

- A.  $572.27 \text{ cm}^2$   
B.  $143.07 \text{ cm}^2$   
C.  $42.39 \text{ cm}^2$   
D.  $21.20 \text{ cm}^2$
2. What is the approximate area, in square units, of circle  $C$ ?



- A. 19  
B. 38  
C. 113  
D. 452

3. What is the approximate area, in square units, of the circle shown below?



- A. 16
- B. 32
- C. 50
- D. 64

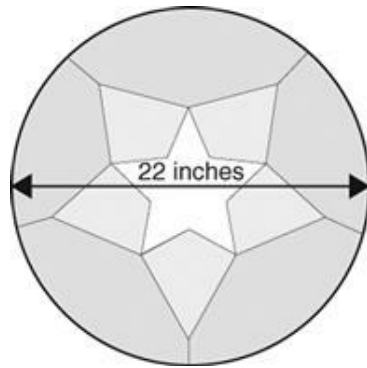
4. In baseball, the next batter waits in the on-deck circle. If the diameter of the on-deck circle is 5 feet, what is its approximate circumference? (Use  $\pi = 3.14$ .)

- A. 7.85 ft
- B. 15.7 ft
- C. 19.625 ft
- D. 78.5 ft

5. The circle at the center of a college basketball court has a diameter of 12 feet. What is the approximate area of this circle? (Use  $\pi = 3.14$ .)

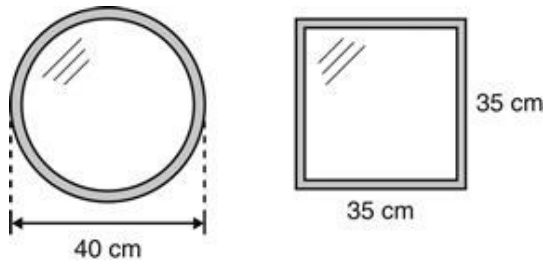
- A. 18.84 sq ft
- B. 37.68 sq ft
- C. 113.04 sq ft
- D. 452.16 sq ft

6. Michelle is creating a circular stained glass piece.



The diameter of the piece is 22 inches. What is its area? (Use  $\pi = 3.14$ .)

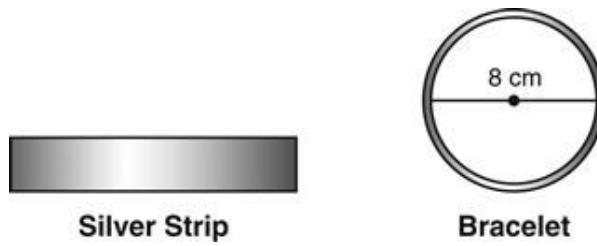
- A.  $69.08 \text{ in.}^2$
  - B.  $138.16 \text{ in.}^2$
  - C.  $379.94 \text{ in.}^2$
  - D.  $1519.76 \text{ in.}^2$
7. Lydia is attaching gold trim along the perimeter of each picture frame shown below.



Which statement about the amount of gold trim needed for each picture frame is correct?

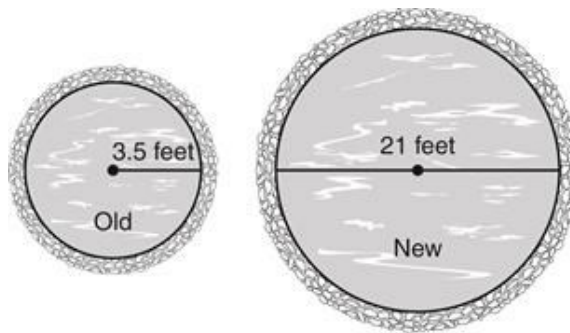
- A. The square frame requires about 55.60 centimeters less gold trim.
- B. The circular frame requires about 14.40 centimeters less gold trim.
- C. The circular frame requires about 15.60 centimeters less gold trim.
- D. The square frame requires about 111.20 centimeters less gold trim.

8. Monica designs and crafts bracelets using strips of silver, as shown below.



How long will the strip of silver need to be for Monica to make a round bracelet with a diameter of 8 centimeters?

- A. 8.00 cm
  - B. 25.13 cm
  - C. 50.27 cm
  - D. 201.06 cm
9. Mr. Bhal has a circular wading pool with a radius of 3.5 feet. He bought a larger pool with a diameter of 21 feet. The measurements of each pool are shown below.

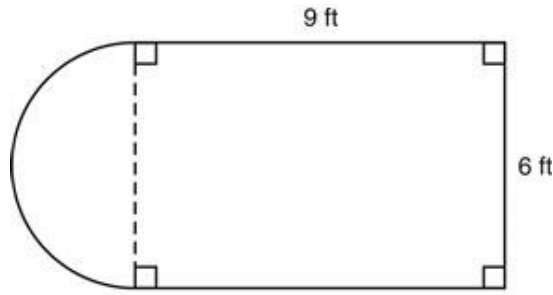


Note: Figures not drawn to scale.

How many times the circumference of the old pool is the circumference of the new pool?

- A. 1.5
- B. 3.0
- C. 6.0
- D. 9.0

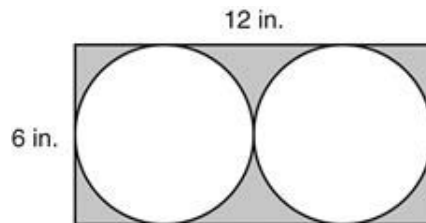
10. The figure below is made up of a rectangle and a semicircle.



Note: Not drawn to scale.

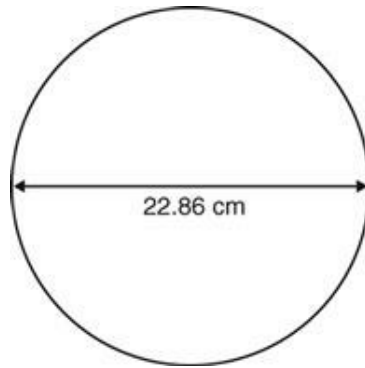
What is the area, in square feet, of the figure? (Use  $\pi \approx 3.14$ .)

- A. 54
  - B. 68.13
  - C. 72.84
  - D. 82.26
11. What is the approximate area, in square inches, of the shaded region of this figure? (Use  $\pi \approx 3.14$ .)



- A. 15.5
  - B. 34.3
  - C. 43.7
  - D. 53.2
12. If a circle has a circumference of 28 units, what is the diameter of the circle rounded to the nearest tenth? (Use 3.14 for  $\pi$ )
- A. 2.2 units
  - B. 4.5 units
  - C. 6.3 units
  - D. 8.9 units

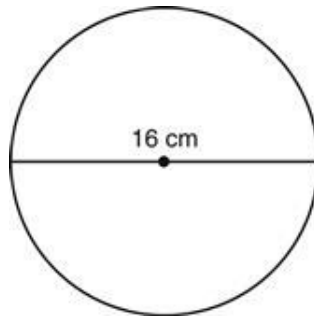
13. Hunter has a choice between 2 pizzas: a circular pizza with a 10-inch diameter, and a square pizza with a 9-inch side. Which statement below is true?
- A. The pizzas have the same area.
  - B. The area of the square pizza is larger.
  - C. The area of the circular pizza is larger.
  - D. The area of the circular pizza is 100 square inches.
14. The diameter of a bicycle's tire is 26 inches. Approximately how much distance is covered, in inches, during one rotation of the tire?
- A. 8
  - B. 82
  - C. 163
  - D. 2123
15. A paper plate has a diameter of 22.86 centimeters.



What is the approximate area of the paper plate? (Use  $\pi = 3.14$ .)

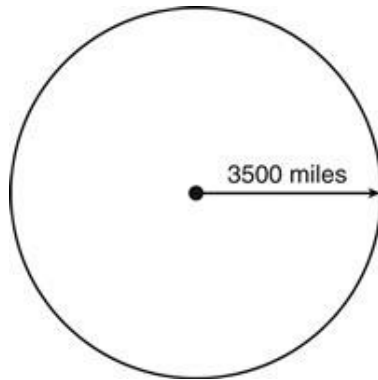
- A. 35.89  $\text{cm}^2$
- B. 71.78  $\text{cm}^2$
- C. 410.22  $\text{cm}^2$
- D. 1640.90  $\text{cm}^2$

16. Mrs. Jones drew this circle on a math test with the diameter measured in centimeters.



**What is the circumference of the circle?**

- A. 25.12 cm
  - B. 50.24 cm
  - C. 100.48 cm
  - D. 200.96 cm
17. The radius of Earth is approximately 3500 miles.

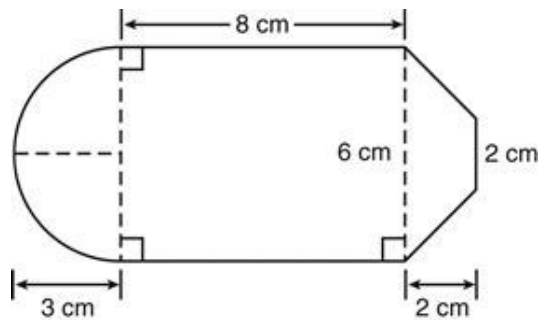


**What is the approximate circumference of Earth (length of the equator) in miles?**

- A. 7000 miles
  - B. 11,000 miles
  - C. 14,000 miles
  - D. 22,000 miles
18. What is the approximate area of a circle with a radius of 10 feet?
- A. 314 square feet
  - B. 63 square feet
  - C. 314 feet
  - D. 63 feet



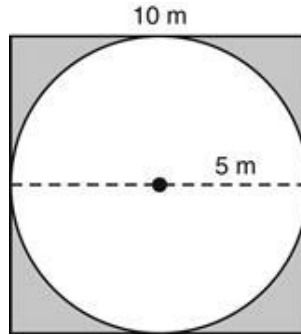
19. Which of the following is true for a circle that has a circumference of approximately 75 feet?
- The diameter is approximately 12 square feet.
  - The radius is approximately 12 square feet.
  - The diameter is approximately 12 feet.
  - The radius is approximately 12 feet.
20. Which of the following is true for a circle that has an area of approximately 113 square feet?
- The diameter is 6 feet and the circumference is 38 square feet.
  - The radius is 6 feet and the circumference is 38 square feet.
  - The diameter is 6 feet and the circumference is 38 feet.
  - The radius is 6 feet and the circumference is 38 feet.
21. Which of the following is true for a circle with a circumference of approximately 100 feet?
- The diameter is 16 feet and the area is 804 square feet.
  - The radius is 16 feet and the area is 804 square feet.
  - The diameter is 16 feet and the area is 804 feet.
  - The radius is 16 feet and the area is 804 feet.
22. The figure below was formed by joining a semicircle, a rectangle, and an isosceles trapezoid.



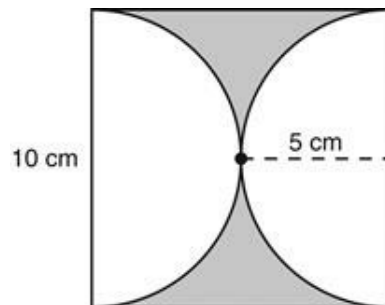
Which is closest to the area of the figure? Use 3.14 for  $\pi$ .

- 62.13 square centimeters
- 70.13 square centimeters
- 78 square centimeters
- 84.26 square centimeters

23. Which is the closest to the area of the shaded region in the given square containing a circle?  
(Use  $\pi \approx 3.14$ .)

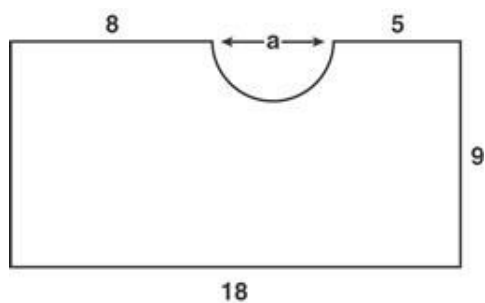


- A. 21.5 square meters  
 B. 50 square meters  
 C. 78.5 square meters  
 D. 100 square meters
24. The circumference of a circle is 3.5 centimeters (cm). If the length of the diameter is tripled to make a new circle, which is closest to the circumference of the new circle?
- A. 7.0 cm  
 B. 10.5 cm  
 C. 14.0 cm  
 D. 17.5 cm
25. What is the approximate area of the shaded region in the given square containing 2 semicircles? (Use  $\pi \approx 3.14$ .)



- A. 21.5 square centimeters  
 B. 50 square centimeters  
 C. 78.5 square centimeters  
 D. 100 square centimeters

26. The figure below is a rectangle that has had a semicircle removed.



What is the perimeter of the figure?

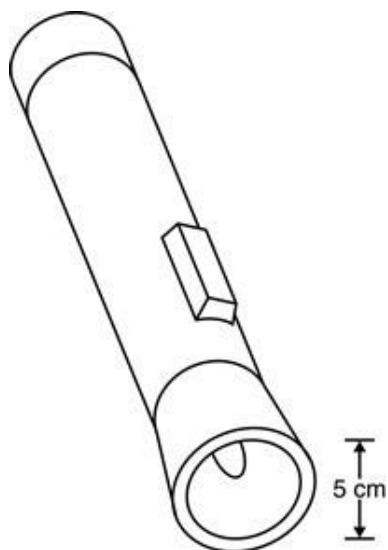
- A.  $49 + 2.5\pi$   
B.  $49 + 5\pi$   
C.  $54 - 2.5\pi$   
D.  $54 - 5\pi$
27. A steering wheel has a radius of 7 inches. What is the approximate circumference, in inches, of the steering wheel?
- A. 21.98  
B. 43.96  
C. 87.92  
D. 153.86
28. A circle has a radius of 6 cm. Which method can be used to calculate the area of the circle?
- A. multiply 6 and  $\pi$   
B. square 6, then multiply by  $\pi$   
C. divide 6 by 2, then multiply by  $\pi$   
D. multiply 6 and 2, then multiply by  $\pi$

29. The United States golden dollar coin has a diameter of 1.043 inches (in.).



Which measurement is closest to the circumference of the golden dollar?

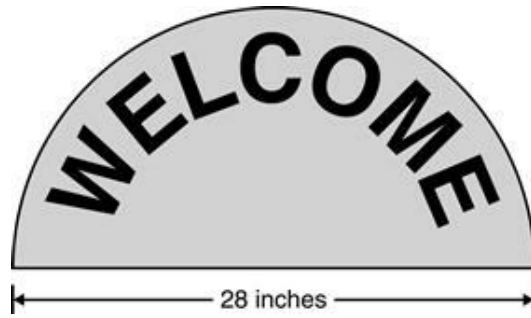
- A. 0.8 inch
  - B. 1.6 inches
  - C. 3.3 inches
  - D. 6.3 inches
30. The circular lens on a flashlight is 5 centimeters (cm) in diameter.



Which measurement is closest to the area of the lens?

- A. 7.9 square centimeters
- B. 15.7 square centimeters
- C. 19.6 square centimeters
- D. 31.4 square centimeters

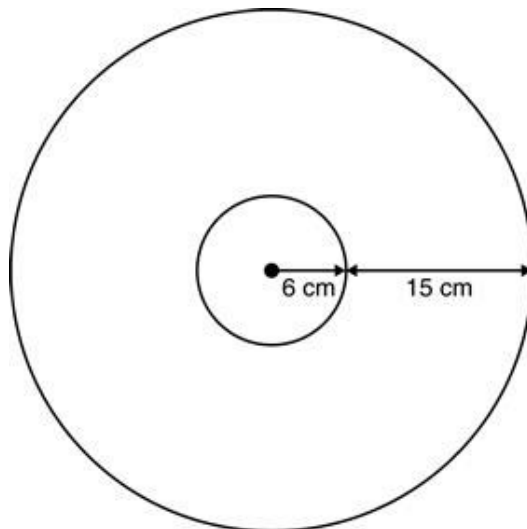
31. Marta has a welcome doormat in the shape of a half circle.



Which measure is closest to the distance around the mat?

- A. 44 inches
- B. 50 inches
- C. 72 inches
- D. 88 inches

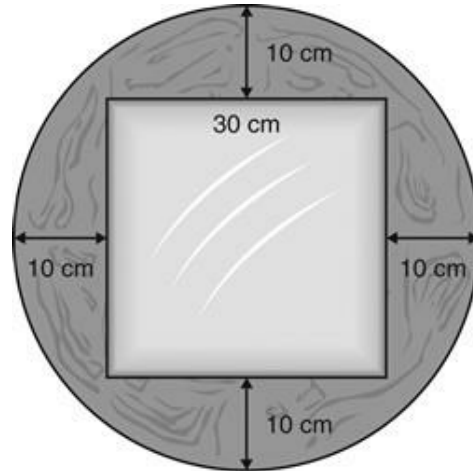
32. Two circles share a center point.



Which measurement is closest to the circumference of the outside circle?

- A. 57 centimeters
- B. 94 centimeters
- C. 113 centimeters
- D. 132 centimeters

33. The figure below shows a square mirror, with side lengths of 30 centimeters, centered in a circular frame.



Which measurement is closest to the area of the frame?

- A. 1062.5 square centimeters
  - B. 1842.5 square centimeters
  - C. 1926 square centimeters
  - D. 2826 square centimeters
34. The circumference of a circle is 96 inches. Which measure is closest to the diameter of the circle?
- A. 31 inches
  - B. 96 inches
  - C. 99 inches
  - D. 288 inches
35. What is the **approximate** circumference of the circle that has a center at  $(2, 1)$  and passes through the point  $(2, 5)$ ?
- A. 8 units
  - B. 13 units
  - C. 25 units
  - D. 50 units

36. The circumference of a circle is 188 meters. What is the **approximate** radius of the circle?
- A. 30 meters
  - B. 60 meters
  - C. 94 meters
  - D. 128 meters