

Grade 7 · Circumference and Area of Circles · Quiz

Common Core 7.G.B.4 · mathovore.fr

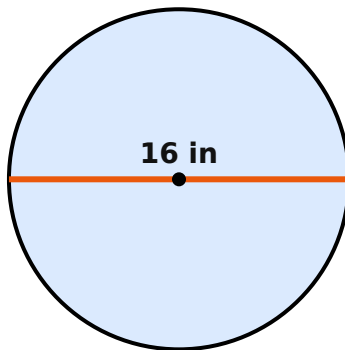
Name: _____ Date: ____/____/____ Score: _____

Ten multiple-choice questions check circumference and area of circles. Several include a diagram. Each question states whether to use 3.14 for π or to leave the answer in terms of π . Choose the one correct answer, then read the explanation to see which common mistake each wrong choice shows.

Grade 7 Common Core: 7.G.B.4

Questions

Question 1

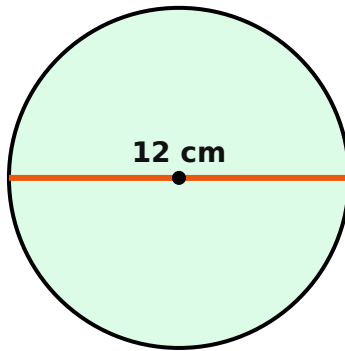


Quiz figure.

What is the radius of the circle?

- A. 32 in
- B. 16 in
- C. 8 in
- D. 4 in

Question 2

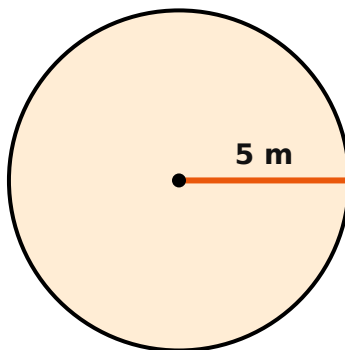


Quiz figure.

What is the circumference? Use 3.14 for π .

- A. 37.68 cm
- B. 75.36 cm
- C. 113.04 cm
- D. 18.84 cm

Question 3



Quiz figure.

What is the area of the circle? Use 3.14 for π .

- A. 31.4 m²
- B. 15.7 m²
- C. 78.5 m²
- D. 314 m²

Question 4

A circle has a diameter of 8 cm. What is its area? Use 3.14 for π .

- A. 200.96 cm²
- B. 50.24 cm²
- C. 25.12 cm²
- D. 100.48 cm²

Question 5

The circumference of a circle is 31.4 cm. What is its diameter? Use 3.14 for π .

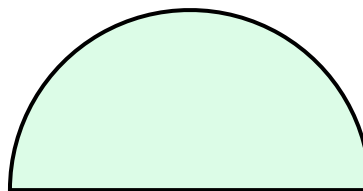
- A. 10 cm
- B. 5 cm
- C. 15.7 cm
- D. 98.6 cm

Question 6

A circle has radius 7 cm. What is its area in terms of π ?

- A. 14π cm²
- B. 196π cm²
- C. 7π cm²
- D. 49π cm²

Question 7



diameter 12 cm

Quiz figure.

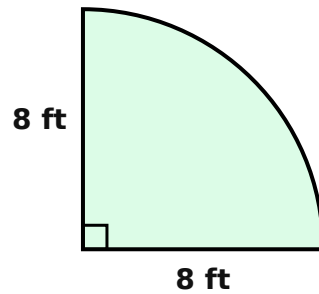
What is the area of the semicircle? Use 3.14 for π .

- A. 113.04 cm²
- B. 56.52 cm²

C. 18.84 cm^2

D. 28.26 cm^2

Question 8



Quiz figure.

What is the area of the quarter circle? Use 3.14 for π .

A. 200.96 ft^2

B. 100.48 ft^2

C. 50.24 ft^2

D. 12.56 ft^2

Question 9

The radius of a circle is doubled. What happens to its area?

A. It is multiplied by 4.

B. It is multiplied by 2.

C. It is multiplied by 3.

D. It is multiplied by 8.

Question 10

A wheel has a diameter of 2 ft. How far does it roll in 50 turns? Use 3.14 for π .

A. 157 ft

B. 628 ft

C. 56.28 ft

D. 314 ft

Answer key

1. **C** - The radius is half the diameter: $16 \div 2 = 8$. Doubling gives 32, a common slip.
2. **A** - $C = \pi d = 3.14 \times 12 = 37.68$. The value 113.04 is the area, and 18.84 is only πr .
3. **C** - $A = 3.14 \times 5^2 = 78.5$. The value 31.4 is the circumference, and 314 uses the diameter 10 as the radius.
4. **B** - The radius is 4, so $A = 3.14 \times 16 = 50.24$. Using 8 as the radius gives 200.96.
5. **A** - $d = C \div \pi = 31.4 \div 3.14 = 10$. The value 5 is the radius, and multiplying instead of dividing gives 98.6.
6. **D** - $A = \pi r^2 = \pi \times 49$. The value 14π is the circumference, and 196π squares the diameter.
7. **B** - The radius is 6. Half of $3.14 \times 36 = 113.04$ is 56.52. The value 113.04 is the full circle.
8. **C** - One fourth of $3.14 \times 8^2 = 200.96$ is 50.24. The value 12.56 is the length of the curved edge, not the area.
9. **A** - Since $A = \pi r^2$, doubling r gives $\pi(2r)^2 = 4\pi r^2$. Doubling is for the circumference, not the area.
10. **D** - One turn is $3.14 \times 2 = 6.28$ ft, and $6.28 \times 50 = 314$. Using the radius gives 157.

Remember:

- Diameter is twice the radius: $d = 2r$.
- Circumference: $C = \pi d = 2\pi r$, measured in linear units.
- Area: $A = \pi r^2$, measured in square units.
- π is about 3.14; leave answers in terms of π when asked.
- A semicircle is half a circle; its perimeter includes the diameter.