

Grade 7 - Circumference and Area of Circles - Quiz

Common Core 7.G.B.4 · maths-pdf.fr/en/

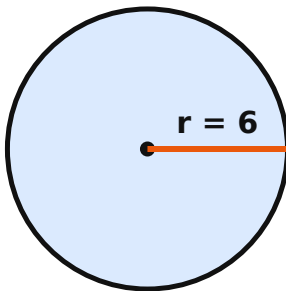
Name: _____ Class: _____ Date: ____/____/____

Answer all 10 multiple-choice questions on the circumference and area of circles, the meaning of pi, radius and diameter, and semicircles and composite figures. Pick the single best answer, then read the explanation to see why it is right and which common mistake each wrong choice shows. A score of 8 or more means you are ready for the test.

Grade 7 · Common Core State Standards: **7.G.B.4**

Questions

Question 1



A circle has a radius of 6. What is its diameter?

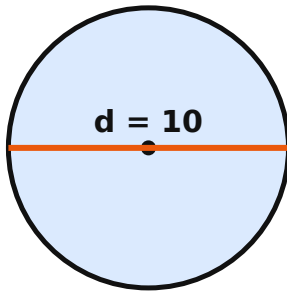
- A. 3
- B. 12
- C. 6
- D. 36

Question 2

Which formula gives the area of a circle?

- A. $A = \pi r^2$
- B. $A = 2\pi r$
- C. $A = \pi d$
- D. $A = 2\pi r^2$

Question 3



A circle has a diameter of 10. What is its circumference

using $\pi \approx 3.14$?

- A. 78.5
- B. 62.8
- C. 31.4
- D. 314

Question 4

A circle has a radius of 3. What is its area in terms of π ?

- A. 6π
- B. 3π
- C. 18π
- D. 9π

Question 5

A circle's circumference is 12.56. Using 3.14, what is the radius?

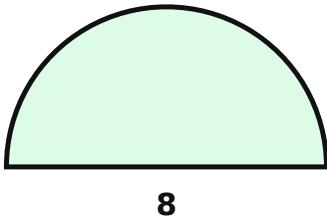
- A. 2
- B. 4
- C. 6.28
- D. 12

Question 6

By what factor does the area of a circle grow if the radius doubles?

- A. 2
- B. 4
- C. 8
- D. pi

Question 7



What is the area of a semicircle with diameter 8, using

$\pi \approx 3.14$?

- A. 50.24
- B. 12.56
- C. 25.12
- D. 100.48

Question 8

A wheel has a diameter of 20 in. How far does it roll in one turn (use 3.14)?

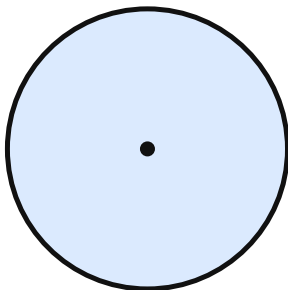
- A. 31.4 inches
- B. 314 inches
- C. 125.6 inches
- D. 62.8 inches

Question 9

Which is a good estimate of π ?

- A. $\frac{7}{22}$
- B. $\frac{22}{7}$
- C. 2.14
- D. $\frac{31}{4}$

Question 10



A circular pool has an area of 78.5 square feet (use 3.14).

What is its radius?

- A. 5 feet
- B. 25 feet

- C. 10 feet
- D. 12.5 feet

Answers

1. **B** - The diameter is twice the radius: $2 \times 6 = 12$.
2. **A** - Area uses the square of the radius. $2\pi r$ and πd are circumference.
3. **C** - $C = \pi d = 3.14 \times 10 = 31.4$. The value 78.5 is the area for $r = 5$.
4. **D** - $\pi r^2 = \pi \times 9$. The value 6 pi is the circumference.
5. **A** - $r = 12.56 \div (2 \times 3.14) = 2$.
6. **B** - Area depends on the square of the radius, $2^2 = 4$.
7. **C** - $r = 4$, whole circle area 50.24, half is 25.12.
8. **D** - One turn equals the circumference: $3.14 \times 20 = 62.8$.
9. **B** - Pi is about 3.14, and $\frac{22}{7} = 3.142\dots$. The other values are too far from 3.14.
10. **A** - $r^2 = 78.5 \div 3.14 = 25$, so $r = 5$.

Remember

- Diameter $d = 2r$; radius is half the diameter.
- Circumference $C = \pi d = 2\pi r$.
- Area $A = \pi r^2$ (square the radius first).
- π is about 3.14 or $\frac{22}{7}$; leave answers in terms of pi to be exact.
- A semicircle has half the area of the circle; its perimeter adds the diameter.