

Circles: Circumference and Area

Name: _____ Date: _____ Score: _____ / 18

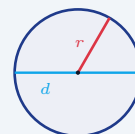
Quick Review and Helpful Hints

For a circle with radius r (and diameter $d = 2r$): the *circumference* (distance around) is $C = 2\pi r = \pi d$, and the *area* (space inside) is $A = \pi r^2$. Use $\pi \approx 3.14$. Remember the area uses the radius *squared*.

▶ **Example:** Find the area of a circle with radius 4 (use $\pi \approx 3.14$).

Work: Area is πr^2 . Square the radius first: $4^2 = 16$. Then multiply: 3.14×16 .

★ **Answer:** 50.24



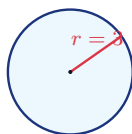
$$C = 2\pi r = \pi d;$$

$$A = \pi r^2.$$

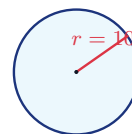
Practice Problems

Use $\pi \approx 3.14$. Use each circle diagram to find the circumference (C) or area (A) as directed.

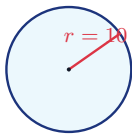
1. Find C .



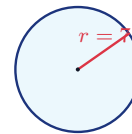
6. Find A .



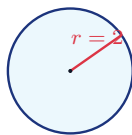
2. Find C .



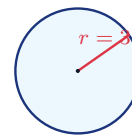
7. Find C .



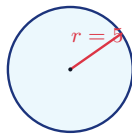
3. Find A .



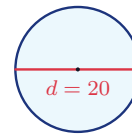
8. Find A .



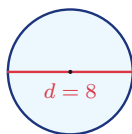
4. Find A .



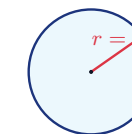
9. Find C .



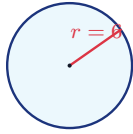
5. Find C .



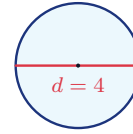
10. Find A .



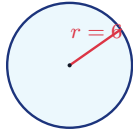
11. Find C .



13. Find C .



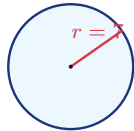
12. Find A .



14. Find A .



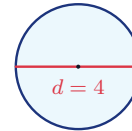
◆ Word Problems



15. A circular garden has radius 7 m. What is the distance around it?

Use $C = 2\pi r$, $\pi \approx 3.14$

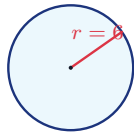
Work: _____



17. A round table has diameter 4 feet. What is the distance around its edge?

Use $C = \pi d$, $\pi \approx 3.14$

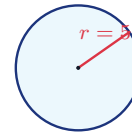
Work: _____



16. A pizza has radius 6 inches. What is its area?

Use $A = \pi r^2$, $\pi \approx 3.14$

Work: _____



18. A circular pool has radius 5 feet. What is the area of a cover for it?

Use $A = \pi r^2$, $\pi \approx 3.14$

Work: _____



Answer Keys

- | | | |
|----------|------------|----------------------------|
| 1. 18.84 | 7. 43.96 | 13. 12.56 |
| 2. 62.8 | 8. 28.26 | 14. 200.96 |
| 3. 12.56 | 9. 62.8 | 15. 43.96 m |
| 4. 78.5 | 10. 3.14 | 16. 113.04 in ² |
| 5. 25.12 | 11. 37.68 | 17. 12.56 ft |
| 6. 314 | 12. 113.04 | 18. 78.5 ft ² |

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Circumference is $2\pi r$. With $\pi \approx 3.14$: $2 \times 3.14 \times 3 = 18.84$. So the final answer is 18.84.

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = 2\pi r = 2 \times 3.14 \times 10 = 62.8$. So the final answer is 62.8.

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Area is πr^2 . Square the radius first: $2^2 = 4$, then $3.14 \times 4 = 12.56$. So the final answer is 12.56.

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = \pi r^2 = 3.14 \times 5^2 = 3.14 \times 25 = 78.5$. So the final answer is 78.5.

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is With the diameter given, use $C = \pi d = 3.14 \times 8 = 25.12$. So the final answer is 25.12.

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 10^2 = 3.14 \times 100 = 314$. So the final answer is 314.

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = 2\pi r = 2 \times 3.14 \times 7 = 43.96$. So the final answer is 43.96.

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 3^2 = 3.14 \times 9 = 28.26$. So the final answer is 28.26.

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = \pi d = 3.14 \times 20 = 62.8$. So the final answer is 62.8.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 1^2 = 3.14$. So the final answer is 3.14.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = 2\pi r = 2 \times 3.14 \times 6 = 37.68$. So the final answer is 37.68.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 6^2 = 3.14 \times 36 = 113.04$. So the final answer is 113.04.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $C = \pi d = 3.14 \times 4 = 12.56$. So the final answer is 12.56.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $A = 3.14 \times 8^2 = 3.14 \times 64 = 200.96$. So the final answer is 200.96.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Distance around is the circumference: $C = 2\pi r = 2 \times 3.14 \times 7 = 43.96$ m. So the final answer is 43.96 m.

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Area is $\pi r^2 = 3.14 \times 6^2 = 3.14 \times 36 = 113.04$ in². So the final answer is 113.04 in².

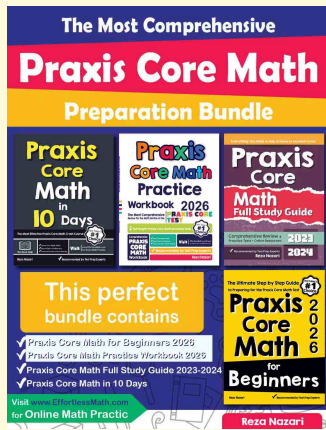
17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Distance around uses the diameter: $C = \pi d = 3.14 \times 4 = 12.56$ ft. So the final answer is 12.56 ft.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Cover area is $\pi r^2 = 3.14 \times 5^2 = 3.14 \times 25 = 78.5$ ft². So the final answer is 78.5 ft².



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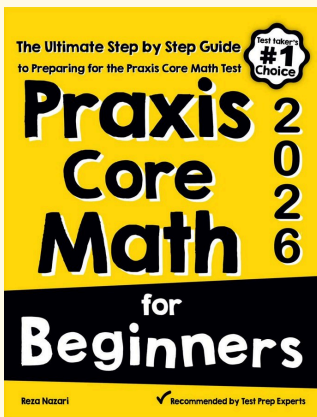
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