LESSON MAKER PRO

Circle Math Mission

Use radius, diameter, circumference, and area to solve circle problems.

GRADE 6 · 6.MG.1

6.MG.1 "The student will identify the characteristics of circles and solve problems, including those in context, involving circumference and area. Identify and describe chord, diameter, radius, circumference, and area of a circle..."

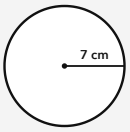
NAME _____ DATE _____

CIRCLE TOOLS

A radius goes from the center to the circle. A diameter goes across the circle through the center, and it is twice the radius. Use C = 3.14d or C = 2(3.14)r for circumference, and use A = 3.14r^2 for area. A chord has both endpoints on the circle, but it does not have to pass through the center.

WORKED EXAMPLE

Use the labeled circle to find its circumference and area. Use 3.14 for pi.

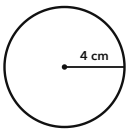


1. The diameter is 2(7), so d = 14 cm.
2. C = 3.14(14) = 43.96 cm.
3. A = 3.14(7)(7) = 153.86 cm^2.
4. The circumference measures around the circle, and the area measures inside it.

Answer: C = 43.96 cm; A = 153.86 cm^2

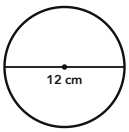
PRACTICE 6 problems

1 Use the labeled circle to find its circumference. Use 3.14 for pi.



ANSWER _____

2 Use the labeled circle to find its area. Use 3.14 for pi.



ANSWER _____

3 A circular button has a radius of 5 cm. Find its circumference and area. Use 3.14 for pi.

ANSWER _____

4 A circle has a circumference of 62.8 cm. What is its radius? Use 3.14 for pi.

ANSWER _____

5 A circle has a diameter of 18 cm. Find its radius and circumference. Use 3.14 for pi.

ANSWER _____

6 A circle has a diameter of 22 cm. What is its radius?

ANSWER _____

APPLY IT Show your work

1 The gaming club is making a circular logo with a diameter of 16 inches. How many inches of border are needed to go all the way around the logo? Use 3.14 for pi.

WORK SPACE

ANSWER _____

2 A school garden has a circular flower bed with a radius of 6 m. How many square meters of mulch will cover the flower bed? Use 3.14 for pi.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A circular drone landing pad has an area of 314 m^2. Find its circumference. Use 3.14 for pi and show how you found the radius first.

WORK SPACE AND ANSWER

ANSWER KEY

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GRADE 6 · 6.MG.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use the labeled circle to find its circumference. Use 3.14 for pi.	**25.12 cm**
2	Use the labeled circle to find its area. Use 3.14 for pi.	**113.04 cm^2**
3	A circular button has a radius of 5 cm. Find its circumference and area. Use 3.14 for pi.	**C = 31.4 cm; A = 78.5 cm^2**
4	A circle has a circumference of 62.8 cm. What is its radius? Use 3.14 for pi.	**10 cm**
5	A circle has a diameter of 18 cm. Find its radius and circumference. Use 3.14 for pi.	**r = 9 cm; C = 56.52 cm**
6	A circle has a diameter of 22 cm. What is its radius?	**11 cm**

PART 2 · APPLY IT

1. **50.24 inches** The border length is the circumference. Calculate C = 3.14(16) = 50.24 inches.
2. **113.04 m^2** Mulch covers the area inside the circle. Calculate A = 3.14(6)(6) = 113.04 m^2.

CHALLENGE

62.8 m

Accept equivalent calculations that use 3.14 and correct units. For the challenge, students should find $r^2 = 100$, then r = 10 m before finding the circumference.