

Circle Measure Mission

Find exact circumference and area using π .

GRADE 7 • TEKS 7.9.B

7.9.B "determine the circumference and area of circles;"

NAME _____

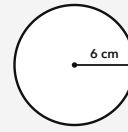
DATE _____

CIRCLE FORMULAS

For a circle with radius r , circumference is $C = 2\pi r$ and area is $A = \pi r^2$. If you know the diameter d , use $C = \pi d$, or divide d by 2 before finding area. Keep π in your answer unless you are told to estimate.

WORKED EXAMPLE

Find the circumference and area of the circle shown.

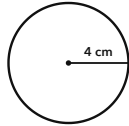


1. The radius is 6 cm.
2. $C = 2\pi(6) = 12\pi$ cm.
3. $A = \pi(6)^2 = 36\pi$ cm².

Answer: Circumference: 12π cm; Area: 36π cm²

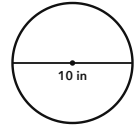
PRACTICE 6 problems

- 1** Find the circumference of the circle shown.



ANSWER _____

- 2** Find the area of the circle shown.



ANSWER _____

- 3** A circle has a radius of 5 m. Find its circumference and area.

ANSWER _____

- 4** A circle has a circumference of 18π yd. Find its radius and area.

ANSWER _____

- 5** The area of a circle is 64π square units. Find its diameter.

ANSWER _____

- 6** A circular lid has a circumference of 30π cm. Find its area.

ANSWER _____

APPLY IT Show your work

- 1** A gaming club marks a circular play zone with a radius of 11 m. How much tape is needed to mark the boundary of the zone?

WORK SPACE

ANSWER _____

- 2** A student designs a round sticker with a diameter of 14 cm. What area of sticker material is needed for one sticker?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A circular drone landing pad has a radius of 4 m. A second landing pad has twice the first pad's diameter. Find the circumference and area of the second pad. Explain how you found its radius.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the circumference of the circle shown.	8pi cm
2	Find the area of the circle shown.	25pi in²
3	A circle has a radius of 5 m. Find its circumference and area.	Circumference: 10pi m; Area: 25pi m²
4	A circle has a circumference of 18pi yd. Find its radius and area.	Radius: 9 yd; Area: 81pi yd²
5	The area of a circle is 64pi square units. Find its diameter.	16 units
6	A circular lid has a circumference of 30pi cm. Find its area.	225pi cm²

PART 2 • APPLY IT

1. **22pi m** Use $C = 2\pi r$. Substitute 11 for r to get 22π m.
2. **49pi cm²** The radius is half of 14 cm, which is 7 cm. Use $A = \pi r^2$ to get 49π cm².

CHALLENGE

The second pad has a radius of 8 m because its diameter is 16 m. Its circumference is 16pi m, and its area is 64pi m².

Accept equivalent exact forms, such as $\pi(8)$ for 8π . Require correct units, with square units for area.