LESSON MAKER PRO

Circle Area Quest

Use radius and diameter to find circle areas.

GRADE 7 · MA.7.GR.1.4

MA.7.GR.1.4 "Explore and apply a formula to find the area of a circle to solve mathematical and real-world problems."

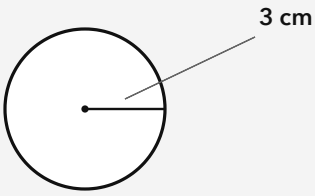
NAME _____ DATE _____

AREA OF A CIRCLE

Use A = pi r^2 to find the area of a circle. The radius, r, is the distance from the center to the edge. If you know the diameter, divide it by 2 to find the radius first.

WORKED EXAMPLE

Find the area of the circle shown.

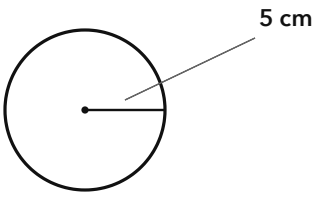


1. The radius is 3 cm.
2. A = pi r^2.
3. A = pi(3)(3) = 9pi.

Answer: 9pi cm^2

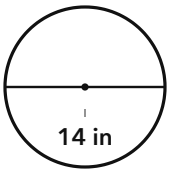
PRACTICE 6 problems

1 Find the area of the circle shown. Write your answer in terms of pi.



ANSWER _____

2 Find the area of the circle shown. Use pi = 22/7.



ANSWER _____

3 A circle has a radius of 7 m. Find its area in terms of pi.

ANSWER _____

4 A circle has an area of 100pi cm^2. What is its radius?

ANSWER _____

5 A circular sticker has a radius of 8 mm. Find its area in terms of pi.

ANSWER _____

6 A circular patio has a diameter of 18 ft. Find its area in terms of pi.

ANSWER _____

APPLY IT Show your work

1 The school esports club makes a round logo for a tournament. The logo has a diameter of 20 cm. What is the area of the logo in terms of pi?

WORK SPACE

ANSWER _____

2 A round practice target has a radius of 14 cm. What area does the target cover? Use pi = 22/7.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A circular game table has a radius of 8 ft. A square game table has a side length of 8 ft. How much more surface area does the circular table have than the square table? Write an exact answer in terms of pi.

WORK SPACE AND ANSWER

ANSWER KEY

Circle Area Quest

GRADE 7 · MA.7.GR.1.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of the circle shown. Write your answer in terms of pi.	**25pi cm^2**
2	Find the area of the circle shown. Use pi = 22/7.	**154 in^2**
3	A circle has a radius of 7 m. Find its area in terms of pi.	**49pi m^2**
4	A circle has an area of 100pi cm^2. What is its radius?	**10 cm**
5	A circular sticker has a radius of 8 mm. Find its area in terms of pi.	**64pi mm^2**
6	A circular patio has a diameter of 18 ft. Find its area in terms of pi.	**81pi ft^2**

PART 2 · APPLY IT

1. **100pi cm^2** Divide the diameter by 2 to get a radius of 10 cm. Then use A = pi(10)^2.
2. **616 cm^2** Use A = pi r^2. Substitute 22/7 for pi and 14 for the radius.

CHALLENGE

(64pi - 64) ft^2

Accept equivalent exact forms, such as 64(pi - 1) ft^2 for the challenge. Do not require decimal approximations unless pi = 22/7 is stated.