LESSON MAKER PRO

Circle Measure Quest

Find the distance around and space inside circles.

GRADE 6 · 6.MG.1.e

6.MG.1.e "Solve problems, including those in context, involving circumference and area of a circle when given the length of the diameter or radius."

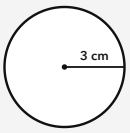
NAME _____ DATE _____

CIRCLE RULES

Use pi = 3.14. Circumference is the distance around a circle, C = pi × d or C = 2 × pi × r. Area is the space inside a circle, A = pi × r^2.

WORKED EXAMPLE

Find the circumference and area of the circle shown. Use pi = 3.14.

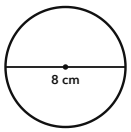


1. C = 2 × 3.14 × 3
2. C = 18.84 cm
3. A = 3.14 × 3 × 3 = 28.26 cm^2

Answer: Circumference: 18.84 cm; Area: 28.26 cm^2

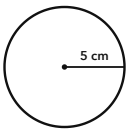
PRACTICE 6 problems

1 Find the circumference of the circle shown. Use pi = 3.14.



ANSWER _____

2 Find the area of the circle shown. Use pi = 3.14.



ANSWER _____

3 A circle has a diameter of 12 cm. Find its area. Use pi = 3.14.

ANSWER _____

4 A circle has a radius of 7 cm. Find its circumference. Use pi = 3.14.

ANSWER _____

5 A circle has a diameter of 10 cm. Find its area. Use pi = 3.14.

ANSWER _____

6 A circle has a radius of 9 cm. Find its circumference and its area. Use pi = 3.14.

ANSWER _____

APPLY IT Show your work

1 A student is making a round sticker for a laptop. The sticker has a diameter of 14 cm. How much sticker material is needed to cover its front? Use pi = 3.14.

WORK SPACE

ANSWER _____

2 A robotics club tests a robot by having it travel once around a circular practice ring with a radius of 11 m. How far does the robot travel? Use pi = 3.14.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Two round game tokens are compared. Token A has a diameter of 10 cm. Token B has a radius of 6 cm. Which token has the greater area, and how much greater is it? Show how you changed Token A's diameter into a radius. Use pi = 3.14.

WORK SPACE AND ANSWER

ANSWER KEY

Circle Measure Quest

GRADE 6 · 6.MG.1.e

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the circumference of the circle shown. Use pi = 3.14.	**25.12 cm**
2	Find the area of the circle shown. Use pi = 3.14.	**78.5 cm²**
3	A circle has a diameter of 12 cm. Find its area. Use pi = 3.14.	**113.04 cm²**
4	A circle has a radius of 7 cm. Find its circumference. Use pi = 3.14.	**43.96 cm**
5	A circle has a diameter of 10 cm. Find its area. Use pi = 3.14.	**78.5 cm²**
6	A circle has a radius of 9 cm. Find its circumference and its area. Use pi = 3.14.	**Circumference: 56.52 cm; Area: 254.34 cm²**

PART 2 · APPLY IT

1. **153.86 cm²** The radius is 7 cm. Calculate A = 3.14 × 7 × 7 = 153.86 cm^2.
2. **69.08 m** Calculate the circumference: C = 2 × 3.14 × 11 = 69.08 m.

CHALLENGE

Token B has the greater area by 34.54 cm². Token A has radius 5 cm and area 78.5 cm². Token B has area 113.04 cm².

Accept equivalent correctly labeled calculations that use pi = 3.14. For the challenge, require that the student identifies Token A's radius as 5 cm and compares the two areas.