

Circle Sense

Name circle parts and find distances and areas.

GRADE 6 • 6.MG.1.a

6.MG.1.a "Identify and describe chord, diameter, radius, circumference, and area of a circle."

NAME _____

DATE _____

CIRCLE PARTS AND FORMULAS

A radius goes from the center to the circle, and a diameter goes across the center from one side to the other. A chord has two endpoints on the circle, and a diameter is a special chord that passes through the center. Circumference is the distance around a circle, $C = \pi d$ or $C = 2\pi r$, and area is the space inside a circle, $A = \pi r^2$.

WORKED EXAMPLE

A circle has a radius of 9 cm. Find its area in terms of π .

1. Use $A = \pi r^2$.
2. Substitute 9 for r : $A = \pi(9^2)$.
3. Square 9: $A = 81\pi$.

Answer: $81\pi \text{ cm}^2$

PRACTICE 6 problems

- 1** A circle has a radius of 8 inches. What is its diameter?

ANSWER _____

- 2** A circle has a diameter of 14 feet. What is its radius?

ANSWER _____

- 3** A circle has a radius of 3 m. Find its circumference in terms of π .

ANSWER _____

- 4** A circle has a radius of 5 cm. Find its area in terms of π .

ANSWER _____

- 5** Segment AB has endpoints on a circle and passes through the center. Name the most specific type of segment.

ANSWER _____

- 6** Segment EF has two endpoints on a circle but does not pass through the center. Name the segment.

ANSWER _____

APPLY IT Show your work

- 1** The esports club is decorating a round table cover with a diameter of 26 inches. How many inches of ribbon are needed to go once around the edge? Write your answer in terms of pi.

WORK SPACE

ANSWER _____

- 2** A student is designing a circular skateboard sticker with a radius of 11 cm. What area will the sticker cover? Write your answer in terms of pi.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A circle has a radius of 12 cm. Segment MN has endpoints on the circle and passes through the center. Name MN, then find the circle's circumference and area in terms of pi.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A circle has a radius of 8 inches. What is its diameter?	16 inches
2	A circle has a diameter of 14 feet. What is its radius?	7 feet
3	A circle has a radius of 3 m. Find its circumference in terms of pi.	6pi m
4	A circle has a radius of 5 cm. Find its area in terms of pi.	25pi cm²
5	Segment AB has endpoints on a circle and passes through the center. Name the most specific type of segment.	diameter
6	Segment EF has two endpoints on a circle but does not pass through the center. Name the segment.	chord

PART 2 • APPLY IT

- 26pi inches** The ribbon goes around the edge, so find circumference. Use $C = \pi d = \pi(26) = 26\pi$ inches.
- 121pi cm²** The question asks for the space inside the sticker, so use area. $A = \pi r^2 = \pi(11^2) = 121\pi$ cm².

CHALLENGE

MN is a diameter. MN = 24 cm, circumference = 24pi cm, and area = 144pi cm².

Accept pi or the symbol π . For item 5, accept "diameter" or "a diameter, which is also a chord," but require diameter as the most specific name.