

Shape Space

Find area, circumference, and missing measurements.

GRADE 7 • MA.7.GR.1

MA.7.GR.1 "Solve problems involving two-dimensional figures, including circles."

NAME _____

DATE _____

CHOOSE THE RIGHT FORMULA

Use the formula that matches the measurement you need. For area, use $A = l \times w$ for rectangles, $A = \frac{1}{2}bh$ for triangles, $A = bh$ for parallelograms, and $A = \pi r^2$ for circles. For the distance around a circle, use $C = 2\pi r$, and use the value of π named in the problem.

WORKED EXAMPLE

Find the area of a rectangle with a length of 11 cm and a width of 7 cm.

1. $A = l \times w$

2. $A = 11 \times 7$

3. $A = 77 \text{ cm}^2$

Answer: 77 cm^2

PRACTICE 6 problems

- 1** Find the area of a rectangle with a length of 9 cm and a width of 4 cm.

ANSWER _____

- 2** Find the area of a triangle with a base of 14 cm and a height of 5 cm.

ANSWER _____

- 3** Find the area of a parallelogram with a base of 12 m and a height of 3 m.

ANSWER _____

- 4** Find the area of a circle with a radius of 5 cm. Use $\pi = 3.14$.

ANSWER _____

- 5** Find the circumference of a circle with a diameter of 10 m. Use $\pi = 3.14$.

ANSWER _____

- 6** A parallelogram has an area of 144 cm^2 and a base of 18 cm. Find its height.

ANSWER _____

APPLY IT Show your work

- 1** A student designs a circular game-table cover with a radius of 15 cm. How much fabric is needed to cover the top? Use $\pi = 3.14$.

WORK SPACE

ANSWER _____

- 2** A robotics club places an LED strip around a circular display with a radius of 16 cm. How long must the strip be? Use $\pi = 3.14$.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A square poster has a side length of 20 cm. A circular logo with a radius of 10 cm is printed on the poster. How much area of the poster lies outside the logo? Use $\pi = 3.14$.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find the area of a rectangle with a length of 9 cm and a width of 4 cm.	36 cm²
2	Find the area of a triangle with a base of 14 cm and a height of 5 cm.	35 cm²
3	Find the area of a parallelogram with a base of 12 m and a height of 3 m.	36 m²
4	Find the area of a circle with a radius of 5 cm. Use $\pi = 3.14$.	78.5 cm²
5	Find the circumference of a circle with a diameter of 10 m. Use $\pi = 3.14$.	31.4 m
6	A parallelogram has an area of 144 cm ² and a base of 18 cm. Find its height.	8 cm

PART 2 • APPLY IT

1. **706.5 cm²** Use $A = \pi r^2$. Multiply 3.14 by 15 x 15.
2. **100.48 cm** Use $C = 2\pi r$. Multiply 2 x 3.14 x 16.

CHALLENGE

86 cm²

Accept correct units and equivalent decimal forms, such as 78.50 cm² for 78.5 cm². For the challenge, students must subtract the circle's area from the square's area.