LESSON MAKER PRO

Shape Area Lab

Find area by adding or subtracting parts.

GRADE 7 · 7.G.6a

7.G.6a "Solve real-world and mathematical problems involving: Area and surface area of objects composed of triangles and quadrilaterals;"

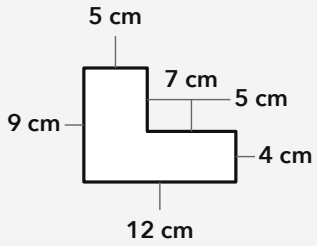
NAME _____ DATE _____

BREAK IT APART

Split a shape into rectangles and triangles, or subtract a missing piece from a larger rectangle. For a rectangle, multiply length by width. For a triangle, multiply base by height, then divide by 2.

WORKED EXAMPLE

Find the area of the shape shown.



1. Whole rectangle: 12 × 9 = 108 cm^2.
2. Missing rectangle: 7 × 5 = 35 cm^2.
3. Shaded shape: 108 − 35 = 73 cm^2.

Answer: 73 cm^2

PRACTICE 4 problems

1 Add the areas of a 14 cm by 6 cm rectangle and a triangle with base 14 cm and height 10 cm.

ANSWER _____

2 Subtract the area of a 2 m by 6 m rectangle from the area of a 16 m by 10 m rectangle.

ANSWER _____

3 Add the areas of two triangles. Their bases are 18 in and 10 in, and each height is 6 in.

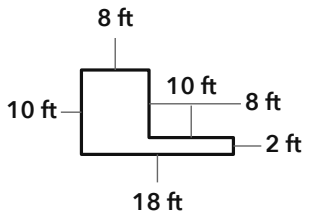
ANSWER _____

4 Add the areas of a parallelogram with base 15 ft and height 8 ft and a triangle with base 8 ft and height 6 ft.

ANSWER _____

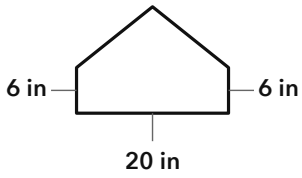
APPLY IT Show your work

1 A club paints the stage floor shown. How many square feet get painted?



ANSWER _____

2 A game club makes the badge shown. The top triangle is 8 in tall. What is the badge's area?



ANSWER _____

CHALLENGE One step up

Evaluate $22 \times 16 - 6 \times 10 + (10 \times 8 \div 2)$ in cm^2. Explain what each term could represent in a shape's area.

WORK SPACE AND ANSWER

ANSWER KEY

Shape Area Lab

GRADE 7 · 7.G.6a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Add the areas of a 14 cm by 6 cm rectangle and a triangle with base 14 cm and height 10 cm.	**154 cm^2**
2	Subtract the area of a 2 m by 6 m rectangle from the area of a 16 m by 10 m rectangle.	**148 m^2**
3	Add the areas of two triangles. Their bases are 18 in and 10 in, and each height is 6 in.	**84 in^2**
4	Add the areas of a parallelogram with base 15 ft and height 8 ft and a triangle with base 8 ft and height 6 ft.	**144 ft^2**

PART 2 · APPLY IT

1. **100 ft^2** Subtract the missing 10 ft by 8 ft rectangle from the 18 ft by 10 ft rectangle: 180 − 80 = 100.
2. **200 in^2** The rectangle has area 20 × 6 = 120 in^2. The triangle has area 20 × 8 ÷ 2 = 80 in^2, for a total of 200 in^2.

CHALLENGE

332 cm^2. The first term is a large rectangle, the second is a rectangle removed from it, and the third is a triangle added to it.

Accept any correct method of splitting or subtracting areas. Answers should use square units.