LESSON MAKER PRO

Shape Area Search

Break shapes apart to find their area.

GRADE 6 · 6.GR.A.1

6.GR.A.1 "Find the area of triangles, quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and quadrilaterals to solve problems."

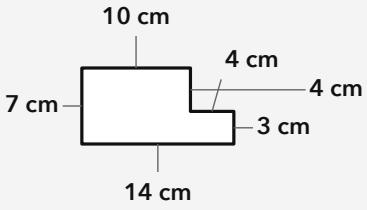
NAME _____ DATE _____

THE BIG IDEA

A rectangle or rearranged parallelogram has area base × height. A triangle has area base × height / 2. To find a larger shape's area, add the areas of its parts or subtract a missing part from a rectangle.

WORKED EXAMPLE

Find the area of the shape shown.



1. Full rectangle: 14 × 7 = 98 cm^2.
2. Missing rectangle: 4 × 4 = 16 cm^2.
3. Shape: 98 - 16 = 82 cm^2.

Answer: 82 cm^2

PRACTICE 4 problems

1 Find the area of a triangle with base 9 cm and height 13 cm.

ANSWER _____

2 Find the area of a parallelogram with base 15 m and height 9 m.

ANSWER _____

3 Find the area of a trapezoid with bases 23 cm and 25 cm and height 9 cm.

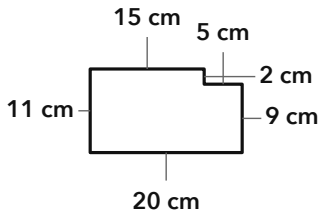
ANSWER _____

4 A pentagon is split into an 18 cm by 9 cm rectangle and a triangle with base 18 cm and height 5 cm. Find its area.

ANSWER _____

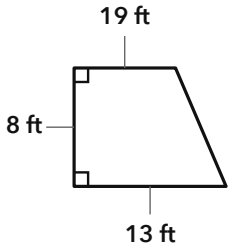
APPLY IT Show your work

1 A game mat has the shape shown. How many square centimeters of fabric does it cover?



ANSWER _____

2 A club paints the panel shown for a school play. How many square feet will they paint?



ANSWER _____

CHALLENGE One step up

A 21 cm by 17 cm sign has two nonoverlapping right triangles cut out. Their leg pairs are 9 cm and 5 cm, and 6 cm and 8 cm. What area remains?

WORK SPACE AND ANSWER

ANSWER KEY # Shape Area Search

GRADE 6 · 6.GR.A.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of a triangle with base 9 cm and height 13 cm.	**58 1/2 cm^2**
2	Find the area of a parallelogram with base 15 m and height 9 m.	**135 m^2**
3	Find the area of a trapezoid with bases 23 cm and 25 cm and height 9 cm.	**216 cm^2**
4	A pentagon is split into an 18 cm by 9 cm rectangle and a triangle with base 18 cm and height 5 cm. Find its area.	**207 cm^2**

PART 2 · APPLY IT

1. **210 cm^2** Subtract the missing 5 cm by 2 cm rectangle from the 20 cm by 11 cm rectangle: 220 - 10 = 210 cm^2.
2. **128 ft^2** Split the panel into a 13 ft by 8 ft rectangle and a triangle with base 6 ft and height 8 ft. Their areas are 104 and 24 square feet, for a total of 128 ft^2.

CHALLENGE

310 1/2 cm^2

Accept 58.5 cm^2 for practice 1 and 310.5 cm^2 for the challenge. Students may split the pictured shapes into parts instead of subtracting missing areas.