LESSON MAKER PRO

Shape Area Puzzles

Split shapes, then find their area

GRADE 6 · 6.GM.B.26

6.GM.B.26 "Calculate the area of triangles, special quadrilaterals, and other polygons by composing and decomposing them into known shapes. a. Apply the techniques of composing and decomposing polygons to find area in the context of solving..."

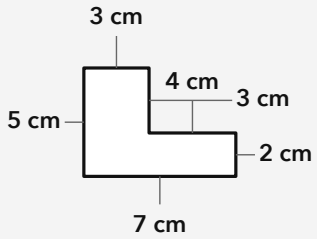
NAME _____ DATE _____

SPLIT OR SUBTRACT

Split a polygon into rectangles and triangles, then add their areas. Or find the area of a surrounding rectangle and subtract the missing part. A triangle's area is base × height ÷ 2.

WORKED EXAMPLE

Find the area of the figure.



1. Split the figure into a bottom rectangle and a top rectangle.
2. Bottom: $7 \times 2 = 14$ cm^2.
3. Top: $3 \times 3 = 9$ cm^2.
4. Add: $14 + 9 = 23$ cm^2.

Answer: 23 cm^2

PRACTICE 4 problems

1 Find the total area: rectangle (8 cm by 6 cm) and triangle (base 8 cm, height 10 cm).

ANSWER _____

2 Find the area left: rectangle (12 m by 9 m) minus triangle (base 6 m, height 8 m).

ANSWER _____

3 Find the area left: square (12 ft by 12 ft) minus rectangle (6 ft by 8 ft).

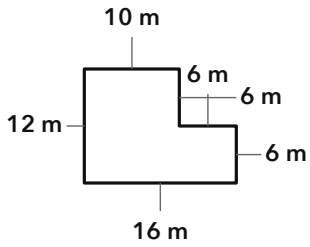
ANSWER _____

4 Find the total area: rectangle (14 yd by 6 yd) and two triangles (each base 8 yd, height 6 yd).

ANSWER _____

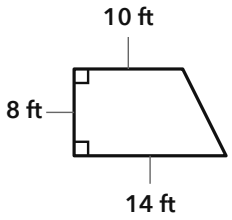
APPLY IT Show your work

1 A skate park paints the area shown. How many square meters need paint?



ANSWER _____

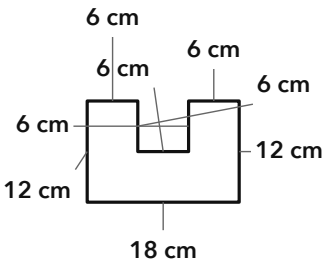
2 A school club paints the wall section shown. How many square feet will it paint?



ANSWER _____

CHALLENGE One step up

Find the area of the figure in two different ways. Show both calculations.



WORK SPACE AND ANSWER

ANSWER KEY

Shape Area Puzzles

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the total area: rectangle (8 cm by 6 cm) and triangle (base 8 cm, height 10 cm).	**88 cm^2**
2	Find the area left: rectangle (12 m by 9 m) minus triangle (base 6 m, height 8 m).	**84 m^2**
3	Find the area left: square (12 ft by 12 ft) minus rectangle (6 ft by 8 ft).	**96 ft^2**
4	Find the total area: rectangle (14 yd by 6 yd) and two triangles (each base 8 yd, height 6 yd).	**132 yd^2**

PART 2 · APPLY IT

1. **156 m^2** Subtract the missing 6 m by 6 m square from a 16 m by 12 m rectangle: 192 - 36 = 156 m^2.
2. **96 ft^2** Split the section into a 10 ft by 8 ft rectangle and a triangle with base 14 - 10 = 4 ft and height 8 ft. Their areas add to 80 + 16 = 96 ft^2.

CHALLENGE

180 cm^2. Subtract: 18 × 12 - 6 × 6 = 180. Split: 6 × 12 + 6 × 6 + 6 × 12 = 180.

Accept any correct split or subtraction method with square units. For the challenge, require two distinct calculations.