LESSON MAKER PRO

Split Shape Sleuth

Find area by breaking shapes into simpler parts.

GRADE 6 · MA.6.GR.2.2

MA.6.GR.2.2 "Solve mathematical and real-world problems involving the area of quadrilaterals and composite figures by decomposing them into triangles or rectangles."

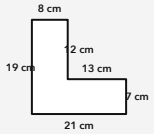
NAME _____ DATE _____

BREAK IT APART

Split a composite figure into rectangles or triangles. Find each small area, then add the areas. If a rectangle is missing from a larger rectangle, subtract the missing area.

WORKED EXAMPLE

Find the area of the L-shaped figure.



1. Treat it as a 21 cm by 19 cm rectangle.
2. Outer area: 21 x 19 = 399 cm^2.
3. Missing area: 13 x 12 = 156 cm^2.
4. 399 - 156 = 243 cm^2.

Answer: 243 cm^2

PRACTICE 4 problems

1 Find the area of a rectangle with a length of 11 cm and a width of 6 cm.

ANSWER _____

2 Find the area of a parallelogram with a base of 14 m and a height of 9 m.

ANSWER _____

3 An L-shape is a 15 cm by 16 cm rectangle with a 3 cm by 2 cm rectangle cut out. Find its area.

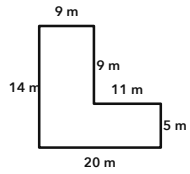
ANSWER _____

4 A trapezoid has bases of 18 in. and 10 in. Its height is 4 in. Decompose it into a rectangle and triangles to find its area.

ANSWER _____

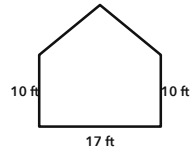
APPLY IT Show your work

1 A student council is planning a chalk-art space. The figure shows its L-shaped pavement. How many square meters of pavement are there?



ANSWER _____

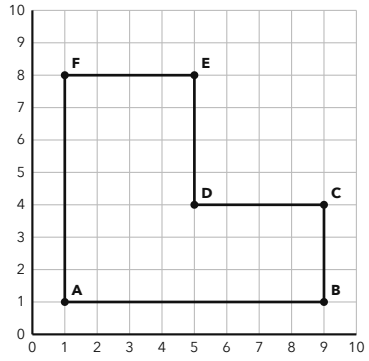
2 A gaming club makes a banner shaped like a rectangle with a triangle on top. The rectangle is 17 ft wide and 10 ft tall. The top triangle has a base of 17 ft and a height of 6 ft. What is the banner's area?



ANSWER _____

CHALLENGE One step up

Use the grid. Find the area of the shaded-style L-shaped polygon by decomposing it. Explain with an equation.



WORK SPACE AND ANSWER

ANSWER KEY

Split Shape Sleuth

GRADE 6 · MA.6.GR.2.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of a rectangle with a length of 11 cm and a width of 6 cm.	**66 cm^2**
2	Find the area of a parallelogram with a base of 14 m and a height of 9 m.	**126 m^2**
3	An L-shape is a 15 cm by 16 cm rectangle with a 3 cm by 2 cm rectangle cut out. Find its area.	**234 cm^2**
4	A trapezoid has bases of 18 in. and 10 in. Its height is 4 in. Decompose it into a rectangle and triangles to find its area.	**56 in^2**

PART 2 · APPLY IT

1. **181 m^2** Use a 20 m by 14 m rectangle, then subtract the 11 m by 9 m missing rectangle.
2. **221 ft^2** Add the rectangle area, 17 x 10, and the triangle area, 17 x 6 / 2.

CHALLENGE

40 square units; 8 x 7 - 4 x 4 = 40.

Accept equivalent decomposition equations and correct square units. For the challenge, accept any clear explanation that finds 40 square units.