

Area Puzzle Pieces

Split shapes into rectangles, then add their areas.

GRADE 3 • 3.MD.C.7d

CCSS.Math.Content.3.MD.C.7d "Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems."

NAME _____

DATE _____

ADD RECTANGLE AREAS

When a rectilinear figure has straight sides and right angles, split it into rectangles that do not overlap. Find each rectangle's area by multiplying length x width. Then add the rectangle areas.

WORKED EXAMPLE

A figure is split into two non-overlapping rectangles: 11 units by 2 units and 11 units by 5 units. What is the total area?

1. Find the first rectangle: $11 \times 2 = 22$ square units.
2. Find the second rectangle: $11 \times 5 = 55$ square units.
3. Add the areas: $22 + 55 = 77$ square units.

Answer: 77 square units

PRACTICE 6 problems

- 1** A shape is split into two non-overlapping rectangles: 6 units by 8 units and 6 units by 10 units. What is the total area?

ANSWER _____

- 2** An L-shaped figure has an 8-unit by 6-unit rectangle and a 4-unit by 10-unit rectangle attached to its right side. What is the area?

ANSWER _____

- 3** A step-shaped figure is made of a 12-unit by 6-unit rectangle with an 8-unit by 1-unit rectangle attached to its top right edge. What is the area?

ANSWER _____

- 4** A 10-unit by 10-unit square has a 6-unit by 1-unit corner cut out. What is the area of the remaining figure?

ANSWER _____

- 5** A figure is split into three non-overlapping rectangles: 6 units by 6 units, 6 units by 1 unit, and 8 units by 1 unit. What is the total area?

ANSWER _____

- 6** A 10-unit by 12-unit rectangle has an 8-unit by 1-unit corner cut out. What is the area of the remaining figure?

ANSWER _____

APPLY IT Show your work

- 1** Rina is making an L-shaped rug for her gaming club. One part is 8 feet by 9 feet. A 4-foot by 6-foot part is attached to its right side, with the bottom edges lined up. How many square feet of fabric does Rina need?

WORK SPACE

ANSWER _____

- 2** A robot course has a cardboard base shaped like a step. The bottom rectangle is 12 inches by 8 inches. A 6-inch by 4-inch rectangle is attached to its top right edge. What is the area of the cardboard base?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A 14-unit by 12-unit rectangle has a 6-unit by 4-unit corner cut out at the top right. What is the remaining area? Show it as the sum of two rectangle areas.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A shape is split into two non-overlapping rectangles: 6 units by 8 units and 6 units by 10 units. What is the total area?	108 square units
2	An L-shaped figure has an 8-unit by 6-unit rectangle and a 4-unit by 10-unit rectangle attached to its right side. What is the area?	88 square units
3	A step-shaped figure is made of a 12-unit by 6-unit rectangle with an 8-unit by 1-unit rectangle attached to its top right edge. What is the area?	80 square units
4	A 10-unit by 10-unit square has a 6-unit by 1-unit corner cut out. What is the area of the remaining figure?	94 square units
5	A figure is split into three non-overlapping rectangles: 6 units by 6 units, 6 units by 1 unit, and 8 units by 1 unit. What is the total area?	50 square units
6	A 10-unit by 12-unit rectangle has an 8-unit by 1-unit corner cut out. What is the area of the remaining figure?	112 square units

PART 2 • APPLY IT

- 96 square feet** Find each rectangle's area: $8 \times 9 = 72$ and $4 \times 6 = 24$. Add $72 + 24$ to get 96 square feet.
- 120 square inches** The rectangle areas are $12 \times 8 = 96$ and $6 \times 4 = 24$. Add $96 + 24$ to get 120 square inches.

CHALLENGE

144 square units; one decomposition is $(14 \times 8) + (8 \times 4) = 112 + 32 = 144$.

Accept answers labeled square units, square feet, or square inches as appropriate. For the challenge, accept any correct non-overlapping rectangle decomposition that totals 144 square units.