

Area Builder Lab

Break shapes into parts and find the total area.

GRADE 7 • 7.G.B

CCSS.Math.Content.7.G.B "Solve real-life and mathematical problems involving angle measure, area, surface area, and volume."

NAME _____

DATE _____

BUILD AREA FROM PARTS

For a shape made of familiar parts, split it into rectangles, triangles, parallelograms, or trapezoids. Find each part's area, then add the areas, or subtract a cutout from a larger area.

WORKED EXAMPLE

An L-shaped patio starts as a 9 ft by 8 ft rectangle. A 2 ft by 5 ft corner is cut out. What is the area of the patio?

1. Find the full rectangle: $9 \times 8 = 72$.
2. Find the missing corner: $2 \times 5 = 10$.
3. Subtract the cutout: $72 - 10 = 62$.

Answer: 62 ft²

PRACTICE 6 problems

- 1** A rectangle measures 6 cm by 11 cm. Find its area.

ANSWER _____

- 2** A triangle has a base of 12 cm and a height of 7 cm. Find its area.

ANSWER _____

- 3** A parallelogram has a base of 13 m and a height of 4 m. Find its area.

ANSWER _____

- 4** A trapezoid has bases of 10 cm and 16 cm and a height of 3 cm. Find its area.

ANSWER _____

- 5** A 15 cm by 6 cm rectangular sheet has a 3 cm by 4 cm rectangle removed from one corner. What is the remaining area?

ANSWER _____

- 6** A shape is made from a 14 m by 7 m rectangle and a triangle attached along the 14 m side. The triangle has a base of 14 m and a height of 6 m. Find the total area.

ANSWER _____

APPLY IT Show your work

- 1** A gaming club is making a backdrop shaped like a rectangle with a triangle directly on top. The rectangle is 18 ft wide and 12 ft tall. The triangle has a base of 18 ft and a height of 6 ft. How much fabric is needed for the backdrop?

WORK SPACE

ANSWER _____

- 2** At a school esports event, a rectangular activity zone is 16 ft by 10 ft. An equipment table covers a 4 ft by 3 ft rectangular part of the zone. How much floor space is left open?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A rectangular courtyard is 20 m by 15 m. Inside it are a 6 m by 7 m rectangular fountain and a triangular flower bed with a base of 10 m and a height of 6 m. The fountain and flower bed do not overlap. What area is left for paving?

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A rectangle measures 6 cm by 11 cm. Find its area.	66 cm²
2	A triangle has a base of 12 cm and a height of 7 cm. Find its area.	42 cm²
3	A parallelogram has a base of 13 m and a height of 4 m. Find its area.	52 m²
4	A trapezoid has bases of 10 cm and 16 cm and a height of 3 cm. Find its area.	39 cm²
5	A 15 cm by 6 cm rectangular sheet has a 3 cm by 4 cm rectangle removed from one corner. What is the remaining area?	78 cm²
6	A shape is made from a 14 m by 7 m rectangle and a triangle attached along the 14 m side. The triangle has a base of 14 m and a height of 6 m. Find the total area.	140 m²

PART 2 • APPLY IT

- 270 ft²** Find the rectangle area, $18 \times 12 = 216 \text{ ft}^2$. Find the triangle area, $18 \times 6 / 2 = 54 \text{ ft}^2$, then add to get 270 ft^2 .
- 148 ft²** The full activity zone has area $16 \times 10 = 160 \text{ ft}^2$. Subtract the table area, $4 \times 3 = 12 \text{ ft}^2$, for 148 ft^2 .

CHALLENGE**228 m²**

Accept correct equivalent calculations and square-unit labels. For composite figures, accept any valid method that adds nonoverlapping areas or subtracts removed areas.