LESSON MAKER PRO

Shape Space

Find area and perimeter from labeled figures.

GRADE 7 · 7.GM.2

7.GM.2 "Use mathematical models and problems to calculate and justify the area of trapezoids and the area and perimeter of composite figures with rational measurements. Develop and use the formula to determine the area of a trapezoid..."

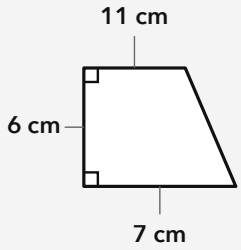
NAME _____ DATE _____

THE BIG IDEA

A trapezoid has two parallel bases. To find its area, add the base lengths, multiply by the height, then divide by 2. For a composite figure, split it into familiar shapes to find area, and add only the outside edges to find perimeter.

WORKED EXAMPLE

Find the area of the trapezoid shown.

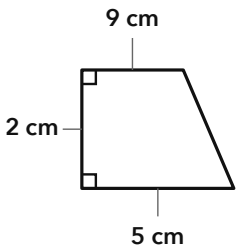


1. Add the parallel bases: 11 + 7 = 18 cm.
2. Multiply by the height: 18 × 6 = 108 cm^2.
3. Divide by 2: 108 ÷ 2 = 54 cm^2.

Answer: 54 cm^2

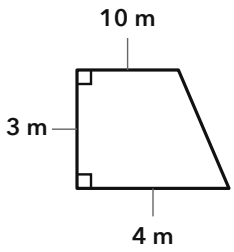
PRACTICE 6 problems

1 Find the area of the trapezoid shown.



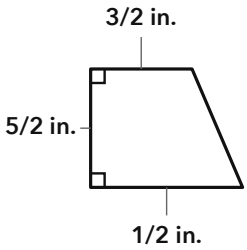
ANSWER _____

2 Find the area of the trapezoid shown.



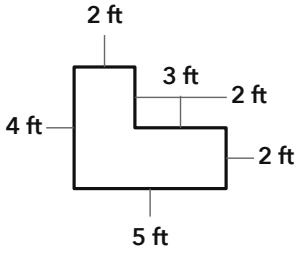
ANSWER _____

3 Find the area of the trapezoid shown.



ANSWER _____

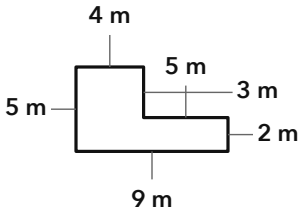
4 Find the area and perimeter of the figure shown.



ANSWER _____

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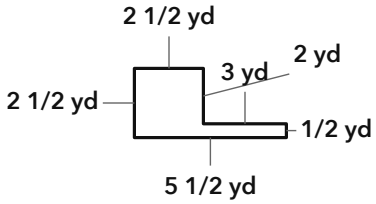
5 Find the area and perimeter of the figure shown.



ANSWER _____

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6 Find the area and perimeter of the figure shown.

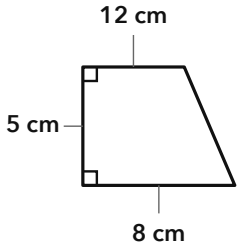


ANSWER _____

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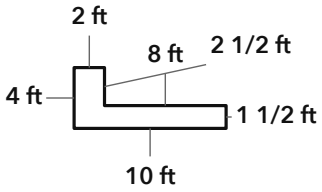
APPLY IT Show your work

1 A skateboard club is cutting a decal in the shape shown. How much sticker paper does one decal cover?



ANSWER _____

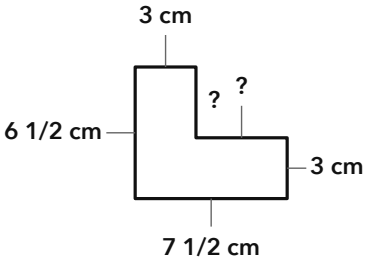
2 An esports club orders an L-shaped desk mat with the dimensions shown. How much material covers the desk, and how much edging goes around the mat?



ANSWER _____

CHALLENGE One step up

Find the area and perimeter of the figure shown. Explain how you found the two edges marked ?.



WORK SPACE AND ANSWER

Shape Space

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of the trapezoid shown.	**14 cm^2**
2	Find the area of the trapezoid shown.	**21 m^2**
3	Find the area of the trapezoid shown.	**5/2 $in.^2$**
4	Find the area and perimeter of the figure shown.	**Area: 14 ft^2; perimeter: 18 ft**
5	Find the area and perimeter of the figure shown.	**Area: 30 m^2; perimeter: 28 m**
6	Find the area and perimeter of the figure shown.	**Area: 7 3/4 yd^2; perimeter: 16 yd**

PART 2 · APPLY IT

1. **50 cm^2** Add the parallel bases, then multiply by the height and divide by 2: (12 + 8) × 5 ÷ 2 = 50.
2. **Material: 20 ft^2; edging: 28 ft** Split the mat into two rectangles: 10 × 1 1/2 + 2 × 2 1/2 = 20 ft^2. Add the six outside edges to get 28 ft.

CHALLENGE

Area: 33 cm^2; perimeter: 28 cm. The missing horizontal edge is 7 1/2 − 3 = 4 1/2 cm. The missing vertical edge is 6 1/2 − 3 = 3 1/2 cm.

Accept equivalent fractions or decimals with correct units. For composite areas, accept any correct split into nonoverlapping rectangles.