LESSON MAKER PRO

Shape Space

Find the space inside and the distance around composite figures.

GRADE 7 · 7.GM.2.2

7.GM.2.2 "Find the area and perimeter of composite figures."

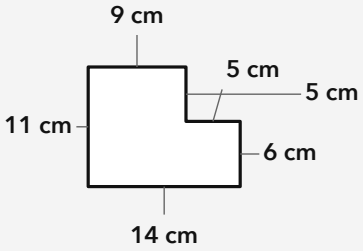
NAME _____ DATE _____

BREAK IT APART

To find the area of a composite figure, divide it into shapes you know, then add their areas. You can also find the area of a missing section and subtract it from a larger shape. To find perimeter, add only the lengths along the outside edge.

WORKED EXAMPLE

Find the area and perimeter of the figure. Lengths are in centimeters.

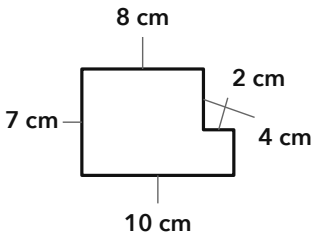


1. Split the figure into a 14 cm by 6 cm rectangle and a 9 cm by 5 cm rectangle.
2. Area = $14 \times 6 + 9 \times 5 = 84 + 45 = 129$ cm^2.
3. Perimeter = $14 + 6 + 5 + 5 + 9 + 11 = 50$ cm.

Answer: Area: 129 cm^2; perimeter: 50 cm

PRACTICE 6 problems

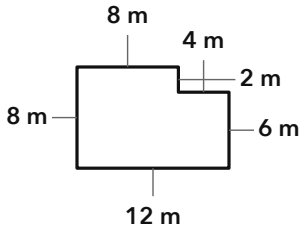
1 Find the area and perimeter of the figure.



ANSWER _____

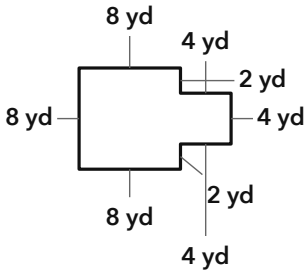
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2 Find the area of the figure.



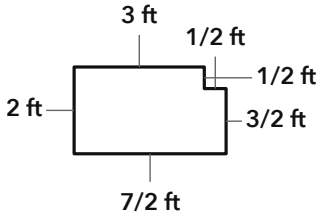
ANSWER _____

3 Find the perimeter of the figure. Include every outside edge.



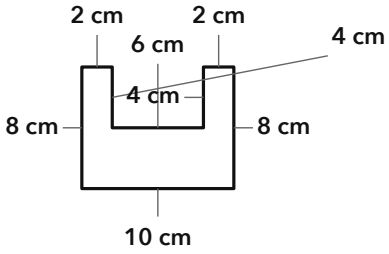
ANSWER _____

4 Find the area of the figure.



ANSWER _____

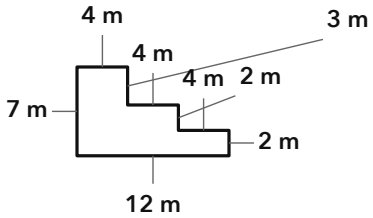
5 Find the area and perimeter of the figure.



ANSWER _____

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6 Find the area and perimeter of the figure.

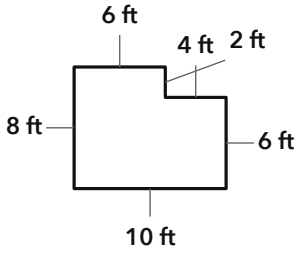


ANSWER _____

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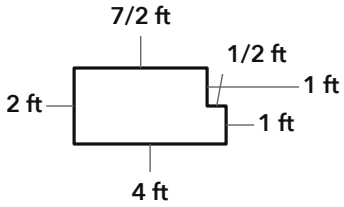
APPLY IT Show your work

1 A skate park will paint a mural in the shape shown and put tape around its edge. How many square feet will be painted? How many feet of tape are needed?



ANSWER _____

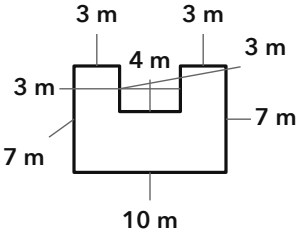
2 A gaming club cuts a desk mat in the shape shown and binds its edge. What is the mat's area in square feet? How many feet of binding are needed?



ANSWER _____

CHALLENGE One step up

A school club has 60 m^2 of ground cover and 38 m of edging for the garden shown. Is there enough of each? Show the area and perimeter to explain.



WORK SPACE AND ANSWER

ANSWER KEY # Shape Space

GRADE 7 · 7.GM.2.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area and perimeter of the figure.	**Area: 62 cm^2; perimeter: 34 cm**
2	Find the area of the figure.	**88 m^2**
3	Find the perimeter of the figure. Include every outside edge.	**40 yd**
4	Find the area of the figure.	**27/4 ft^2**
5	Find the area and perimeter of the figure.	**Area: 56 cm^2; perimeter: 44 cm**
6	Find the area and perimeter of the figure.	**Area: 52 m^2; perimeter: 38 m**

PART 2 · APPLY IT

1. **72 ft^2 painted; 36 ft of tape** Subtract the 4 ft by 2 ft missing section from a 10 ft by 8 ft rectangle to get 72 ft^2. Add the six outside edges to get 36 ft.
2. **7 1/2 ft^2; 12 ft of binding** Subtract the 1/2 ft by 1 ft missing section from a 4 ft by 2 ft rectangle to get 7 1/2 ft^2. Add the six outside edges to get 12 ft.

CHALLENGE

Area = 10 × 7 − 4 × 3 = 58 m^2, so there is enough ground cover. Perimeter = 10 + 7 + 3 + 3 + 4 + 3 + 3 + 7 = 40 m, so the club needs 2 m more edging.

Accept equivalent exact forms, such as 6 3/4 ft^2 for 27/4 ft^2. Perimeter includes the edges inside a notch but not any lines used only to divide a figure for area.