LESSON MAKER PRO

Shape Area Plans

Find polygon areas by splitting or subtracting shapes.

GRADE 6 · MT.6.G.1

MT.6.G.1 "Find the area of triangles, quadrilaterals, and other polygons by composing them into rectangles or decomposing them into triangles and other shapes..."

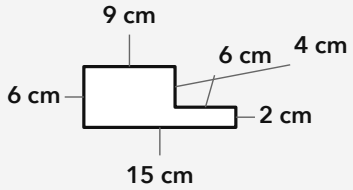
NAME _____ DATE _____

SPLIT OR SUBTRACT

Split a polygon into rectangles and triangles, then add their areas. Or place it inside a rectangle and subtract the missing part. Give each answer in square units.

WORKED EXAMPLE

Find the area of the shape shown.



1. Enclose the shape in a rectangle: $15 \times 6 = 90$ cm^2.
2. The missing rectangle is $6 \times 4 = 24$ cm^2.
3. Subtract: $90 - 24 = 66$ cm^2.

Answer: 66 cm^2

PRACTICE 4 problems

1 Find a triangle's area if its base is 12 cm and its height is 7 cm.

ANSWER _____

2 Find a parallelogram's area if its base is 14 m and its height is 5 m.

ANSWER _____

3 Find a trapezoid's area if its bases are 10 ft and 18 ft and its height is 7 ft.

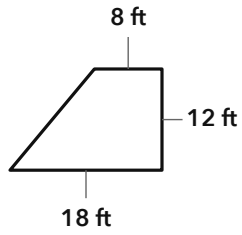
ANSWER _____

4 Two triangles do not overlap. Their base-height pairs are (16 cm, 7 cm) and (20 cm, 3 cm). Find their total area.

ANSWER _____

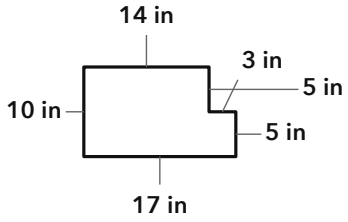
APPLY IT Show your work

1 At a Salish Kootenai College garden, students plan the bed shown. What is its area?



ANSWER _____

2 Students cut a sign for a school game in the shape shown. How many square inches of paper does it use?



ANSWER _____

CHALLENGE One step up

A rectangle is 20 cm wide. After a triangle with base 12 cm and height 5 cm is cut out, its area is 250 cm^2. What was the rectangle's height? Show your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY # Shape Area Plans

GRADE 6 · MT.6.G.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find a triangle's area if its base is 12 cm and its height is 7 cm.	**42 cm^2**
2	Find a parallelogram's area if its base is 14 m and its height is 5 m.	**70 m^2**
3	Find a trapezoid's area if its bases are 10 ft and 18 ft and its height is 7 ft.	**98 ft^2**
4	Two triangles do not overlap. Their base-height pairs are (16 cm, 7 cm) and (20 cm, 3 cm). Find their total area.	**86 cm^2**

PART 2 · APPLY IT

1. **156 ft^2** Split the bed into an 8 ft by 12 ft rectangle and a triangle with base 10 ft and height 12 ft. Add 96 + 60 = 156 ft^2.
2. **155 in^2** Subtract the 3 in by 5 in missing corner from a 17 in by 10 in rectangle: 170 − 15 = 155 in^2.

CHALLENGE

14 cm. The triangle's area is 12 × 5 ÷ 2 = 30 cm^2, so the rectangle's area was 250 + 30 = 280 cm^2. Its height was 280 ÷ 20 = 14 cm.

Accept any correct method of splitting shapes or subtracting a missing part. Require square units for area answers.