Topic 1

LESSON 1.2b

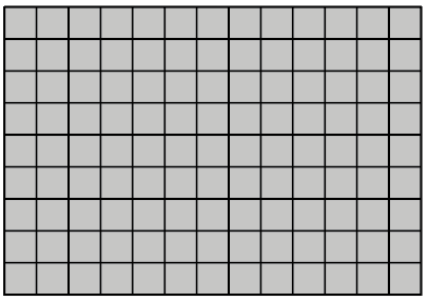
Base and Height

6.G.1

Objective: Area of Triangles and Quadrilaterals

Warm-Up

Write 3 different expressions to describe the total area of this rectangle.



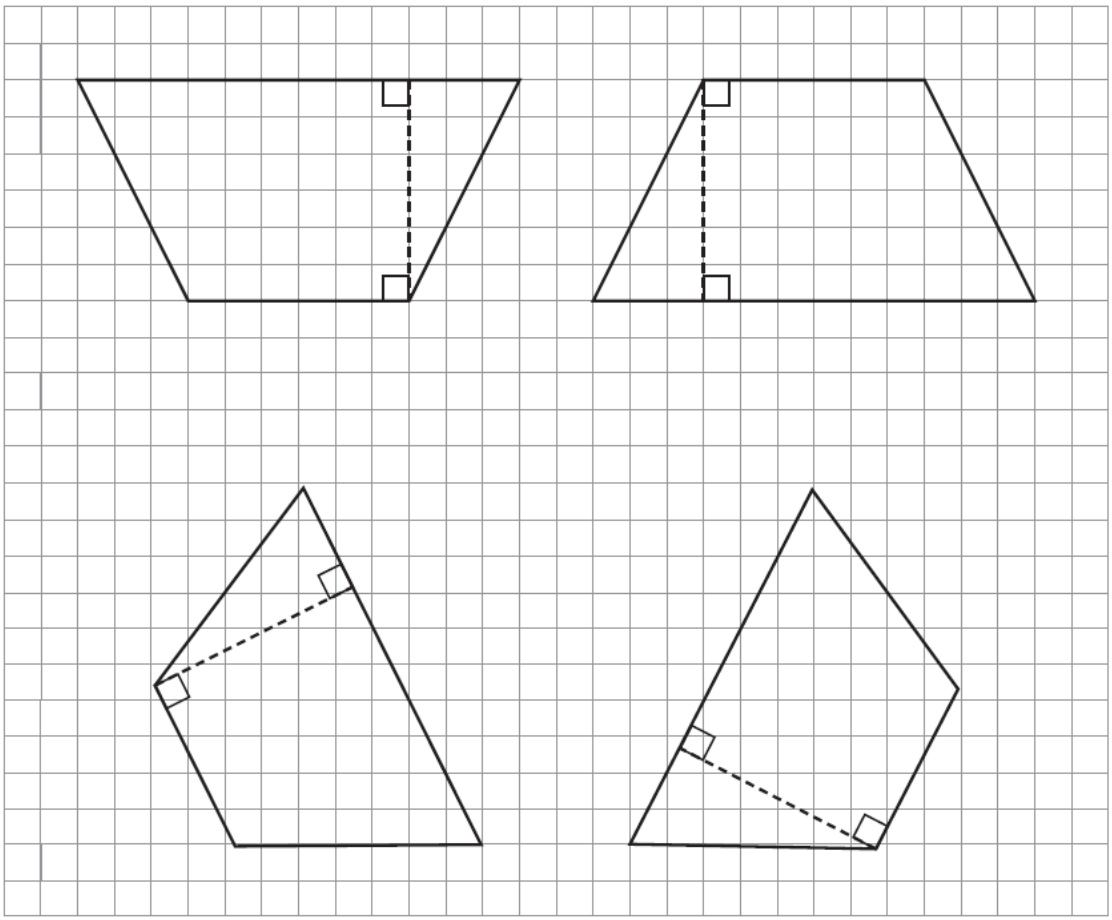
EXPLORE 3

Investigating the Area of a Trapezoid

In this activity you will take apart and put together shapes to determine the formula for calculating the area of a trapezoid.

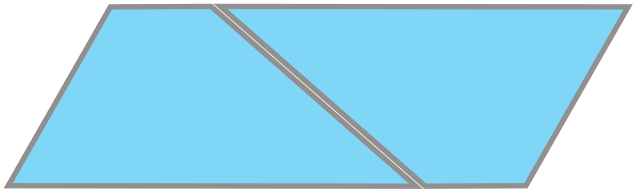
A trapezoid is a quadrilateral with two bases, often labeled b_1 and b_2. The bases are parallel to each other. The other two sides of a trapezoid are called the legs of the trapezoid. An altitude of a trapezoid is the length of a line segment drawn from one base to the other and perpendicular to both.

1. Label each of the corresponding bases for each trapezoid as b_1 and b_2.



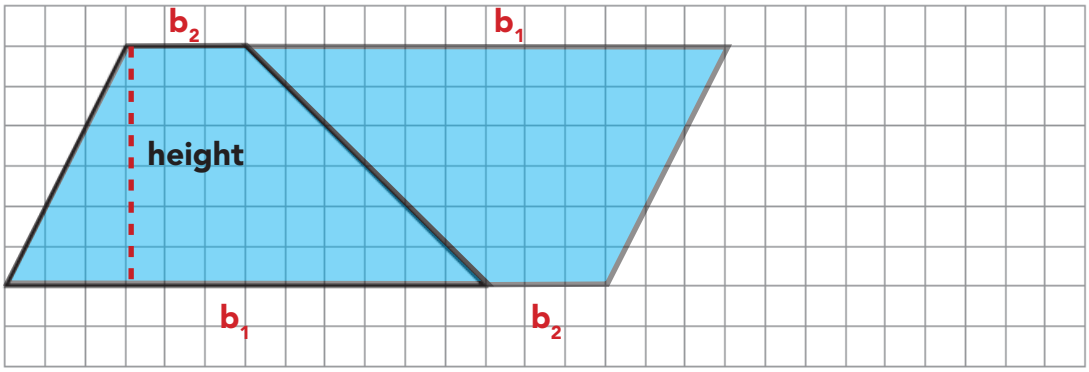
Cut out two of the trapezoids from the Handour Mr. Gilbes gave you to show how to determine each area.

2. Use the two trapezoids to compose a parallelogram to figure out the exact area of one trapezoid. Draw your two trapezoids connected together on your notebook.



3. What formula can you use the determine the area of the parallelogram made from 2 trapezoids?

4. Use your knowledge of calculating the area of a parallelogram to calculate the are of a single trapezoid. Use the figure below to find the formula .



Show You KNOW

All Three Shapes

1. Draw each shape and then label a base and height. Next, write the formula to calculate the area of each. Use A for the area, b for the length of the base, and h for the height.

Parallelogram

Triangle

Trapezoid

Name: _____ Date: _____ Class: _____

Homework HW

LESSON 1.2b

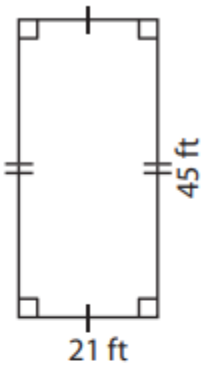
Base and Height

Objective

Area of Triangles and Quadrilaterals

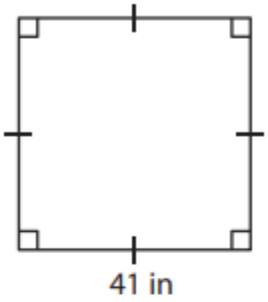
Find the area of each quadrilateral.

1)



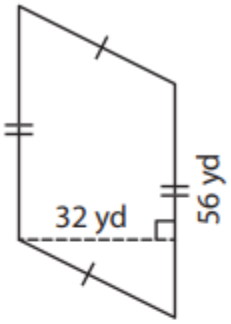
Area = _____

2)



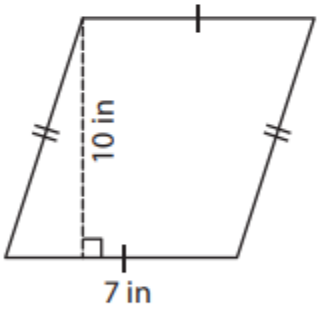
Area = _____

3)



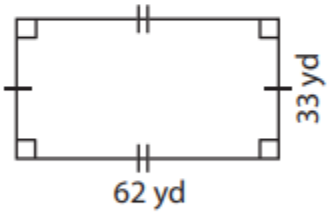
Area = _____

4)



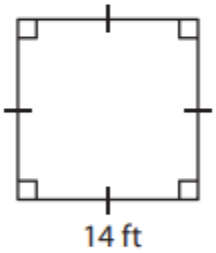
Area = _____

5)



Area = _____

6)



Area = _____

7) The length and width of a rectangle are 12 inches and 8 inches respectively. Determine the area of the rectangle.

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