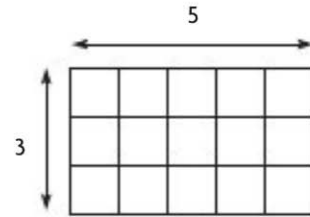


Name _____

Area of a Parallelogram

Essential Question How can you find the area of a parallelogram?

Connect You have learned that the area of a rectangle with base b and height h is $A = b \times h$. The rectangle shown has a base of 5 units and a height of 3 units. So, its area is $A = 5 \times 3 = 15$ square units. You can use what you have learned about the area of a rectangle to find the area of a parallelogram.



UNLOCK the Problem REAL WORLD

The souvenir stand at Mighty Grasshopper basketball games sells parallelogram-shaped pennants. Each pennant has a base of 12 inches and a height of 5 inches.

Activity Find the area of the parallelogram.

Materials ■ grid paper ■ scissors

STEP 1 Draw the parallelogram on grid paper and cut it out.

STEP 2 Cut along the dashed line to remove a right triangle.

STEP 3 Move the right triangle to the right side of the parallelogram to form a rectangle.

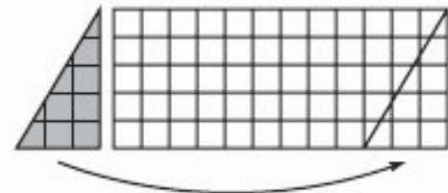
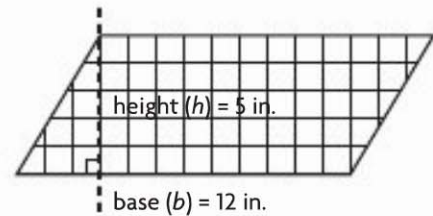
STEP 4 The base of the rectangle measures _____ inches.

The height of the rectangle measures _____ inches.

The area of the rectangle is

$12 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$ square inches.

- **Explain** why the area of the parallelogram must equal the area of the rectangle.



So, the area of a pennant is

_____ \times _____ = _____ square inches.

Math Talk

Explain how to find the area of a parallelogram if you know the base and the height of the figure.

Share and Show

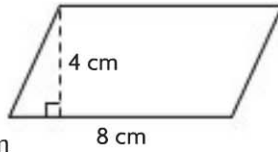


Find the area of the parallelogram.

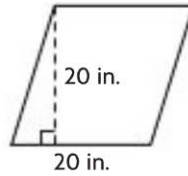
1. $A = b \times h$

$A = 8 \times 4$

$A = \underline{\hspace{2cm}}$ sq cm

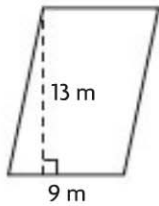


2.



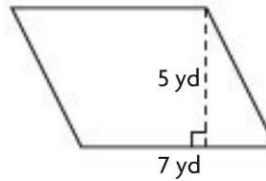
$A = \underline{\hspace{2cm}}$ sq in.

3.



$A = \underline{\hspace{2cm}}$ sq m

4.

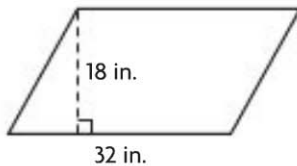


$A = \underline{\hspace{2cm}}$ sq yd

On Your Own

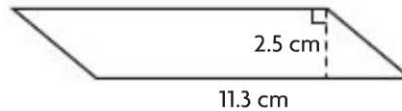
Find the area of the parallelogram.

5.



$A = \underline{\hspace{2cm}}$ sq in.

6.



$A = \underline{\hspace{2cm}}$ sq cm

7. base = 0.6 cm

height = 0.15 cm

$A = \underline{\hspace{2cm}}$ sq cm

8. base = 1.8 m

height = 2.9 m

$A = \underline{\hspace{2cm}}$ sq m

9. base = $\frac{1}{2}$ ft

height = $\frac{3}{8}$ ft

$A = \underline{\hspace{2cm}}$ sq ft

10. base = $4\frac{1}{4}$ in.

height = 20 in.

$A = \underline{\hspace{2cm}}$ sq in.

Problem Solving



11. Carla made a border for her garden using parallelogram-shaped tiles. Each piece had a base of 4 in. and a height of $2\frac{1}{2}$ in. She used 85 tiles. What was the total area of the border?
