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LESSON 9-3 **Reteach**

Area of Parallelograms

The **area** of a figure is the number of square units inside the figure.

You can count the squares inside the rectangle. There are 15 square units within the rectangle. This is equal to 5 • 3.

To find the area of a rectangle, multiply the length (ℓ) times the width (w).

$A = \ell \cdot w$

Find the area of each rectangle.

1. 7 yd, 9 yd

$A = l \cdot w$
$A = 9 \cdot 7$
$A = 63$
The area is 63 yd^2.

2. 5 in., 12 in.

$A = l \cdot w$
$A = 12 \cdot 5$
$A = 60$
The area is 60 in^2.

To find the area of a parallelogram, multiply the base b times the height h.

$A = b \cdot h$

Find the area of each parallelogram.

3. 4 yd, 8 yd

$A = b \cdot h$
$A = 8 \cdot 4$
$A = 32$
The area is 32 yd^2.

4. 9 cm, 6 cm

$A = b \cdot h$
$A = 6 \cdot 9$
$A = 54$
The area is 54 cm^2.

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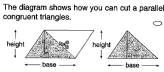
LESSON 9-4 **Reteach**

Area of Triangles and Trapezoids

The diagram shows how you can cut a parallelogram into two congruent triangles.



Remember that the formula for the area of a parallelogram is $A = b \cdot h$.

The area of the triangle is $\frac{1}{2}$ the area of the parallelogram.

The formula for the area of a triangle is $A = \frac{1}{2} \cdot b \cdot h$.

Find the area of each triangle.

1. $A = \frac{1}{2} \cdot b \cdot h$
$A = \frac{1}{2} \cdot 5 \cdot 2$
$A = \frac{1}{2} \cdot 10$
$A = 5$
The area of the triangle is 5 $units^2$.

2. $A = \frac{1}{2} \cdot b \cdot h$
$A = \frac{1}{2} \cdot 9 \cdot 8$
$A = \frac{1}{2} \cdot 72$
$A = 36$
The area of the triangle is 36 $units^2$.

3. 7 in., 6 in.

4. 3 cm, 7 cm

5. 4 yd, 9 yd

$\frac{1}{2}(6)(7) = 21\ in^2$ $\frac{1}{2}(7)(3) = 10.5\ cm^2$ $\frac{1}{2}(4)(9) = 18\ yd^2$ $\frac{1}{2}(16)(10) = 80\ m^2$

6. What is the area of a triangle with base 16 m and height 10 m^2?

7. What is the area of a triangle with base 25 mm and height 50 mm?

$\frac{1}{2}(25)(50) = 625\ mm^2$

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LESSON 9-4 **Reteach**

Area of Triangles and Trapezoids (continued)

In a trapezoid, the parallel sides are called the *bases*. One base is always longer than the other. The bases are labeled base 1 and base 2.

Area of trapezoid = $\frac{1}{2}h(b_1 + b_2)$

Find the area of each trapezoid.

3 in., 4 in., 7 in.

6 cm, 5 cm, 8 cm

8. $A = \frac{1}{2}h(b_1 + b_2)$
$A = \frac{1}{2} \cdot 4 (3 + 7)$
$A = \frac{1}{2} \cdot 4 (10)$
$A = \frac{1}{2} \cdot 40$
$A = 20$
The area of the trapezoid is 20 in^2.

9. $A = \frac{1}{2}h(b_1 + b_2)$
$A = \frac{1}{2} \cdot 5 (6 + 8)$
$A = \frac{1}{2} \cdot 5 (14)$
$A = \frac{1}{2} \cdot 70$
$A = 35$
The area of the trapezoid is 35 cm^2.

10. 5 ft, 8 ft

11. 4 m, 6 m, 8 m

12. 7 cm, 4 cm, 3 cm

$\frac{1}{2}(6)(5+9)$
$\frac{1}{2}(6)(14)$ 42 ft^2
$\frac{1}{2}(6)$

13. What is the area of a trapezoid with bases 25 yd and 75 yd and height 10 yd?

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LESSON 9-4 **Practice A**

Area of Triangles and Trapezoids

Find the area of each triangle.

1. 6, 7

2. 4, 9

3. 5, 13

Find the area of each rectangle.

3. 12.5 cm, 5 cm

4. 6 cm, 6 cm

5. 10 cm, 4.8 cm

Find the area of each parallelogram.

6. 8 cm, 9 cm

7. 12 cm, 4 cm

8. 5 cm, $7\frac{1}{2}$ cm

9. Michelle wants to carpet her living room. The area of the living room is 192 ft^2. The length of the living room is 16 ft. What is the width of the living room?

10. Mustafa is tiling his bathroom. The section that needs to be tiled is 62 in. by 70 in. How many square inches of tile does he need?