Name _____ Date _____ Class _____

LESSON 13-1

Area of Quadrilaterals

Reteach

You can use formulas to find the areas of quadrilaterals.

The area A of a **parallelogram** is the product of its base b and its height h.

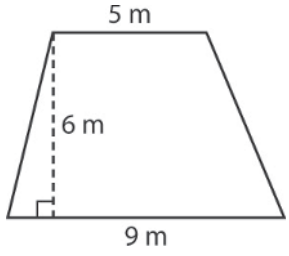
$$A = bh$$

$$\begin{aligned} A &= bh \\ &= 3 \cdot 7 \\ &= 21 \text{ cm}^2 \end{aligned}$$

The area of a **trapezoid** is half its height multiplied by the sum of the lengths of its two bases.

$$A = \frac{1}{2}h(b_1 + b_2)$$

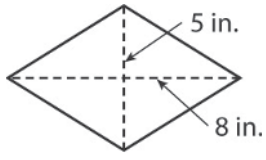
$$\begin{aligned} A &= \frac{1}{2}h(b_1 + b_2) \\ &= \frac{1}{2} \cdot 6(5 + 9) \\ &= \frac{1}{2} \cdot 6(14) \\ &= 3 \cdot 14 \\ &= 42 \text{ m}^2 \end{aligned}$$



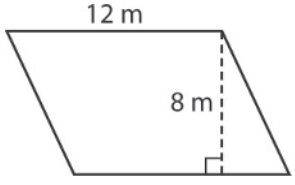
The area of a **rhombus** is half of the product of its two diagonals.

$$A = \frac{1}{2}d_1d_2$$

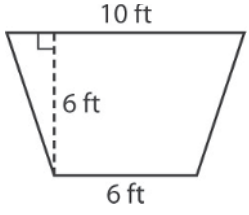
$$\begin{aligned} A &= \frac{1}{2}d_1d_2 \\ &= \frac{1}{2}(5)(8) \\ &= 20 \text{ in}^2 \end{aligned}$$



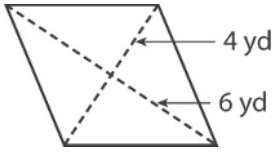
Find the area of each figure.

1. 

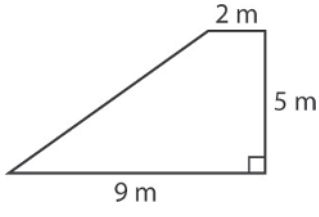
_____

2. 

_____

3. 

_____

4. 

_____

MODULE 13 Areas and Polygons

LESSON 13-1

Practice and Problem Solving: A/B

1. 288 ft^2
2. 45 m^2
3. 34 in^2
4. 8 ft^2
5. 27 cm^2
6. 108 in^2
7. 1,200 in^2
8. 84 cm^2
9. 240 ft^2

Practice and Problem Solving: C

1. 38 m^2
2. 60.2 in^2
3. 47.6 cm^2
4. 144 ft^2
5. 26 in^2
6. 36.75 ft^2
7. 0.56 yd^2
8. 686 cm^2

Practice and Problem Solving: D

1. 60 m^2
2. 32 in^2
3. 39 cm^2
4. 30 yd^2
5. 40 ft^2
6. 27 cm^2
7. 4,500 cm^2
8. 75 in^2
9. 25 yd^2

Reteach

1. 96 m^2
2. 48 ft^2
3. 12 yd^2
4. 27.5 m^2

Reading Strategies

1. Use the formula $A = bh$.
2. Substitute 10 for b; Substitute 4 for h.
3. 40 cm^2
4. Use the formula $\frac{1}{2}h(b_1 + b_2)$.
5. Substitute 4 for h, 6 for b_1, and 8 for b_2. Add the lengths of the bases.
6. 28 in^2

Success for English Learners

1. No, the lengths of the bases get added together before any other operation is completed. The order in which you add the lengths of the bases will not change the sum of the bases.
2. Separate the trapezoid into two triangles and a rectangle. Find the area of each part and add the areas together.
3. 26 cm^2

LESSON 13-2

Practice and Problem Solving: A/B

1. 20 cm^2
2. 25 in^2
3. 50 yd^2
4. 7 ft^2
5. 20 ft^2
6. 1.5 in^2
7. 6 ft^2
8. 26 in^2

Practice and Problem Solving: C

1. 17.55 yd^2
2. $8\frac{7}{16}$ ft^2
3. 5 m^2
4. 8 in^2