

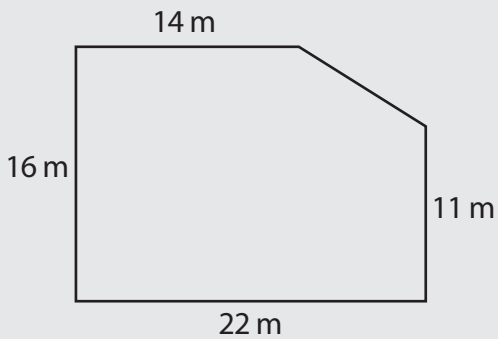
## 23

## Area

3.C.1.a 3.C.1.c 3.C.1.e

## Example

A diagram representing Timmy's backyard is shown below.



## Part A

What is the area of the Timmy's backyard?

332 m<sup>2</sup>

## Part B

Use what you know about area to explain how you found your answer. Use words, numbers, and/or symbols in your explanation.

I divided the figure into two rectangles and one triangle. The rectangles had dimensions of 16 m × 14 m = 224 m<sup>2</sup> and 11 m × 8 m = 88 m<sup>2</sup>. The triangle's dimensions were 8 m × 5 m, which is an area of 20 m<sup>2</sup>. I added the areas: 224 + 88 + 20 = 332.

## Review

**Area** is the measure of the amount of space needed to cover the inside of a figure.

To find the area of a rectangle, multiply the length times the width:  $A = lw$ .

To find the area of a square, multiply the length of a side times itself:  $A = s^2$ .

To find the area of a triangle, multiply the base times the height times  $\frac{1}{2}$ . This can be expressed by the formula  $A = \frac{1}{2}bh$ .

To find the area of a composite figure, break the figure into smaller parts. Find the area of each part and then add the areas.

## Thinking It Through

**Solve** — *Simplify It* Divide the figure into smaller parts and find the area of each.

The formula for the area of a rectangle is  $A = lw$ .

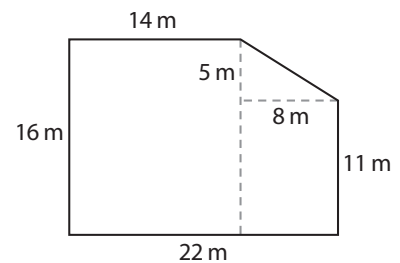
$$\text{Rectangle 1: } 16 \text{ m} \times 14 \text{ m} = 224 \text{ m}^2$$

$$\text{Rectangle 2: } 11 \text{ m} \times 8 \text{ m} = 88 \text{ m}^2$$

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

$$\frac{1}{2} \times 8 \text{ m} \times 5 \text{ m} = 20 \text{ m}^2.$$

$$\text{Add the areas: } 224 \text{ m}^2 + 88 \text{ m}^2 + 20 \text{ m}^2 = 332 \text{ m}^2.$$



# Area

# 23

Directions: Mark the circle with the letter of the best answer.

- 1** The area of a rectangle is  $154 \text{ in.}^2$ . The length of the rectangle is 14 in. What is the width?

(A) 10 inches  
 (B) 11 inches  
 (C) 12 inches  
 (D) 13 inches

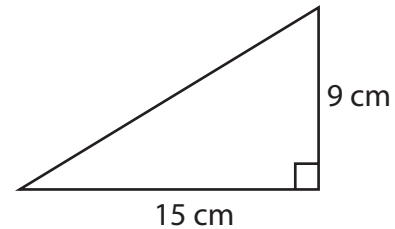


Reverse the formula for the area of a rectangle to find the missing side.

- 2** A right triangle has a base of 12 centimeters and a height of 8 centimeters. What is the area of the triangle?

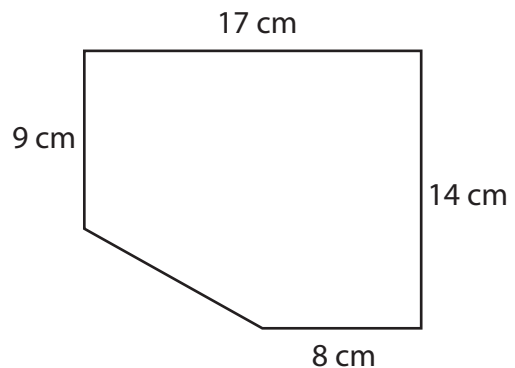
(F)  $20 \text{ cm}^2$   
 (G)  $40 \text{ cm}^2$   
 (H)  $48 \text{ cm}^2$   
 (J)  $96 \text{ cm}^2$

- 3** What is the area of the triangle below?



(A)  $24 \text{ cm}^2$   
 (B)  $67.5 \text{ cm}^2$   
 (C)  $75 \text{ cm}^2$   
 (D)  $135 \text{ cm}^2$

- 4** What is the area of the figure below?



(F)  $215.5 \text{ cm}^2$   
 (G)  $218 \text{ cm}^2$   
 (H)  $228.5 \text{ cm}^2$   
 (J)  $238 \text{ cm}^2$