

# Dimensions Math

## Grade 4 Letter Home #11

Chapter 11 Area and Perimeter

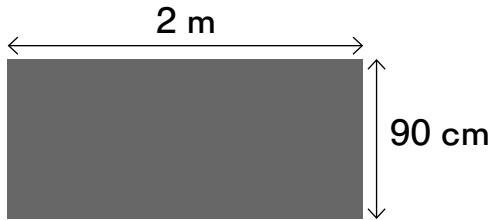
Dimensions Math  
Letters Home

### Home Connection

In this chapter, your child will find the area and perimeter of rectangular and composite shapes including cases where they need to convert between different units of measurement. In Dimensions Math 3B, students learned that area is the amount of space enclosed by the sides of a figure. The perimeter is the distance around the sides of a figure.

### Area

Your child will learn to find the area of a rectangle with side lengths given in different units or fractional units. They should recall that they can find the area by multiplying the length by the width.



To find the area in square centimeters, first convert the meters to centimeters.

$$2 \text{ m} = 200 \text{ cm}$$

$$200 \text{ cm} \times 90 \text{ cm} = 18,000 \text{ cm}^2$$

Your child will learn to find a side length, given the area and the other side length. Since  $\text{Area} = l \times w$ , we can find the missing side by dividing:  $\text{Area} \div \text{length} = \text{width}$  and  $\text{Area} \div \text{width} = \text{length}$ .

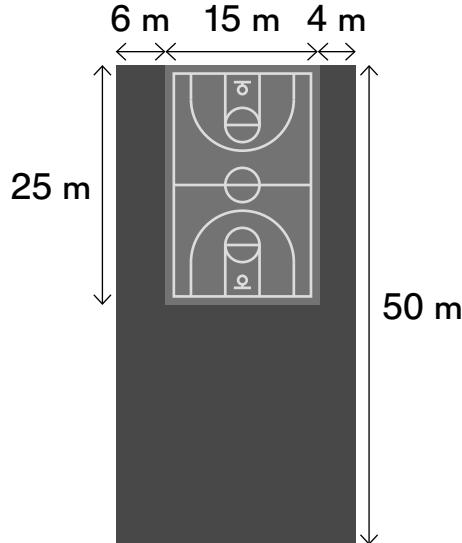


$$153 \div 9 = 17$$

The length of her backyard is 17 ft.

Students will also work with composite figures.

For example:



Divide the grass into smaller rectangles:

$$4 \times 25 = 100$$

$$6 \times 25 = 150$$

$$25 \times 25 = 625$$

$$625 + 150 + 100 = 875$$

They need 875 m<sup>2</sup> of sod.

Area of the whole figure:

$$50m \times 25m = 1,250 \text{ m}^2$$

Area of the court:

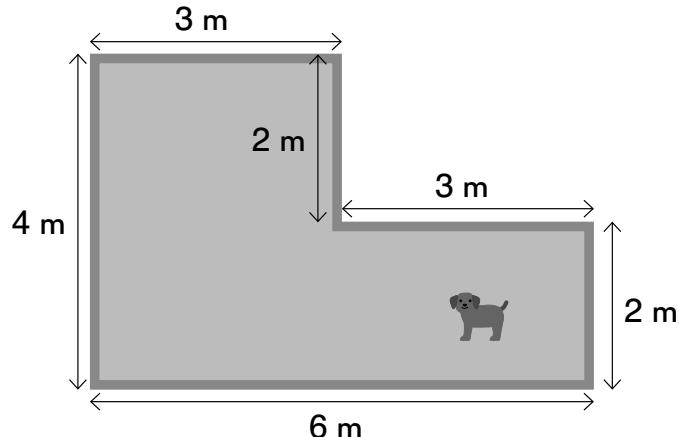
$$25m \times 15m = 375 \text{ m}^2$$

Area of the sod:

$$1,250 - 375 \text{ m}^2 = 875 \text{ m}^2$$

## Perimeter

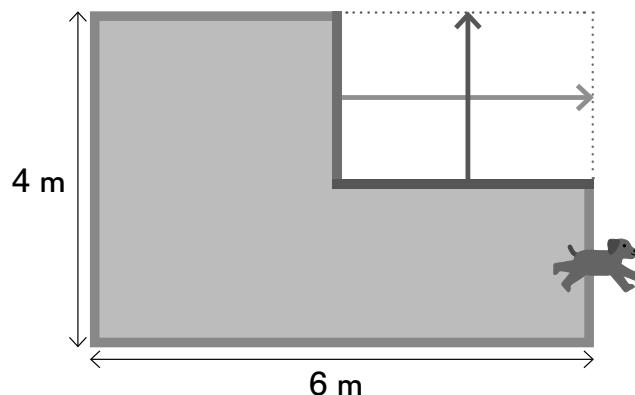
Your child will then learn to find the perimeter of a composite figure in two ways. First, we can add the side lengths. This method is probably the method most familiar to adults.



Second, we can see that if we move the sides out, the perimeter stays the same.

$$\text{Length} + \text{Width} = 6 + 4 = 10$$

$$\text{Perimeter} = 2 \times 10 = 20 \text{ m}$$



## What can we do at home?

### Play Fences

Materials: Centimeter Graph Paper, two colored pencils, and playing cards with the face cards removed

- Players take turns drawing two cards. They multiply the numbers on the cards to get a value for the number of square units, and draw a figure with that area on the graph paper. It does not have to be a rectangle.
- The game is over when there is no space left on the board. Players add up the total area they have fenced in. The player with the most area is the winner!