## Area

Area is the amount of surface of something flat. For example, you would calculate the area of a property to find the amount of sod needed to cover it.

To calculate area, use the formula Area = Length × Width.
This can be written as:

**A = LW or A = L × W**

The formula tells you to multiply the length by the width. When there are two letters right beside each other, like LW, you also multiply them.

Area is always measured in **square units** like square feet (ft2) or square metres (m2).

When you have to calculate an area, the first step is to write down the formula. After that, you write it again, filling in the blanks with your actual measurements. See the following example.

You're asked to find the area of a yard that is 9 feet long and 5 feet wide.

A = LW

A = 9 × 5

A = 45 feet2

So, what did we just do? We replaced the formula with the numbers that are now known. L (length) was replaced with 9 and W (width) was replaced with 5. 9 X 5 = 45 so we found out the size (or area) of the whole space is 45 square feet.

Now, picture a rectangle with a length of 3 feet and a width of 4 feet. How big is the area? Draw your own picture to help.

A = LW

A = ___ × ____

A = ____

Here is another example: A backyard measures 15 feet long by 20 feet wide. What is the area of the yard?

A = LW

A = ___ × ___

A = _____

Length usually means the longer side, but you can switch them around and still get the same answer.



This Employment Ontario program is funded in part by the Government of Canada and the Government of Ontario.

## Here is a scenario:

Joe wants to stain a deck. The deck is 7 feet long and 3 feet wide. He must calculate the area of the deck before he buys the stain. Calculate the area of the deck.

$$A = LW$$

$$A = 7 \times 3$$

$$A = 21 \text{ feet}2$$

Now we know how big an area he has to stain. Let's say Joe buys a gallon of stain. One gallon of stain will cover 378 square feet. What area would Joe be able to stain with the stain that is left over?

378 square feet

– 21 square feet

Answer: 357 square feet

If Joe bought a half-gallon, what area could he stain with what is left?

$$378 \div 2 = 189 \text{ sq. ft.}$$

189 sq. ft. – 21 sq. ft. = 168 square feet

The area of a rectangle is the length times the width. If the width is 6 inches and the length is 4 feet, what is the correct calculation for area?

a) 6 times 4 **or** b) 1/2 foot × 4 feet

b) is **CORRECT**. 6 inches is the same as 1/2 foot. Area is 1/2 foot times 4 feet = 2 square feet (or 2 sq. ft., or 2 $ft^2$).



This Employment Ontario program is funded in part by the Government of Canada and the Government of Ontario.

## Learning Activity – Area

1. Calculate the area for the following measurements. Draw a rectangle showing the measurements.

    a) Length 13 feet × Width 10 feet = Area _____

    b) Length 42 feet × Width 4 feet = Area _____

    c) Width 2 inches × Length 4 inches = Area _____

2. Sam has been asked to apply fertilizer to a lawn that is a rectangle shape measuring 20 feet wide and 30 feet long. He must find the area of the lawn before he can mix the fertilizer. Calculate the area of the lawn.

    _____

3. Jane works at a public garden. Her boss has asked her to use the drop spreader to apply some new grass seed in the southeast section of the gardens. The space is an *almost* square shape measuring 5 feet wide and 4 feet long. Calculate the area of the section.

    _____

4. Roscoe is laying sod. The ground he must cover is 42 feet long by 89 feet wide. The sod costs $ 0.39 a square yard. How much will it cost Roscoe to do this job?

    _____

5. Amy is laying patio blocks for a private residence. The most common size for patio blocks is 8" by 16". The finished patio will total 15 sq. ft. How many patio blocks will Amy need to complete the job? Show your work.

    _____

HORTICULTURAL TRADES ASSOCIATION landscape ontario.com Green for Life! | APPRENTICESHIP Horticultural Technician Landscape Horticulturist | Canada | EMPLOYMENT ONTARIO | Ontario

This Employment Ontario program is funded in part by the Government of Canada and the Government of Ontario.