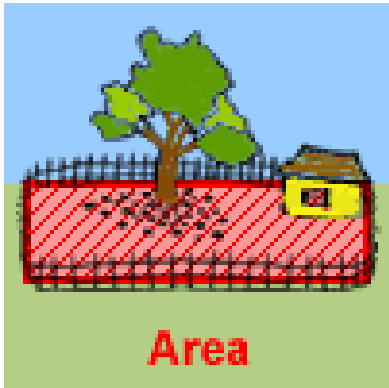


# Growing Futures



## Area

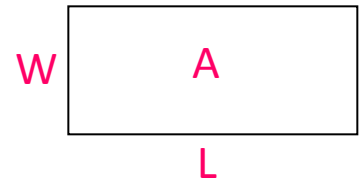
The area of a polygon is the number of square units inside the polygon.



To understand the difference between perimeter and area, think of perimeter as the length of fence needed to enclose the yard, whereas area is the space inside the yard. Perimeter is 1-dimensional and is measured in linear units such as inches, feet or meters. Area is 2-dimensional: it has a length and a width. Area is measured in square units such as square inches, square feet or square meters.

To find the area of a rectangle, multiply the length by the width. The formula is:  $A = L \times W$ , where  $A$  is the area,  $L$  is the length,  $W$  is the width, and  $\cdot$  means multiply. A square is a rectangle with 4 equal sides. To find the area of a square, multiply the length of one side by itself. The formula is:

$A = s \text{ squared}$  or  $A = s \times s$ , where  $A$  is the area,  $s$  is the length of a side.

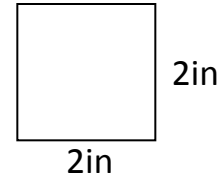


## Examples

1) Find the area of a square with each side measuring 2 inches

$$A = s \times s$$

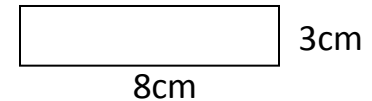
**Solution:** Area = (2 in) x (2 in) = 4 in<sup>2</sup>



2) A rectangle has a length of 8 centimeters and a width of 3 centimeters. Find the area.

$$A = L \times W$$

**Solution:** A = (8 cm) x (3 cm) = 24 cm<sup>2</sup>

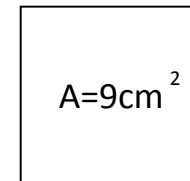


3) The area of a square is 9 square centimeters. How long is one side?

$$A = s \times s$$

**Solution:** Area = 9 cm<sup>2</sup> = s<sup>2</sup> x s

Since 3 x 3 = 9, we get 3 cm x 3 cm = 9 cm<sup>2</sup> So s must equal 3 cm. s = 3 cm



4) The area of a rectangle is 12 square inches and the width is 3 inches. What is the length?

**Solution:** A = L x W

$$12 \text{ in} = L \times 3 \text{ in}$$

Since 4 x 3 = 12, we get (4 in) x (3 in) = 12 in.

So L must equal 4 in.

$$L = 4 \text{ in}$$

