

Formulas and Additional Applications from Geometry

A _____ is an equation in which variables are used to describe a relationship.

ex: $C = \frac{5}{9}(F - 32)$, $d = rt$, $A = \pi r^2$

Ex 1.

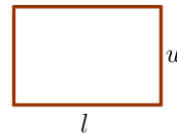
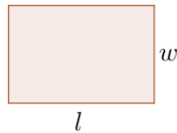
Find the value of the variable that is not given.

$$C = \frac{5}{9}(F - 32), \quad C = 20$$

The _____ of a plane (2-D) geometric figure is a measure of the surface covered by the figure.
(ex: How much hardwood flooring do you need? How many square feet of concrete do you need?)

The _____ of a plane (2-D) geometric figure is the distance around the figure.
(ex: How far is it around a building? How many feet of fencing do you need?)

ex: For a rectangle with size l and w , the area is _____, and the perimeter is _____.



Ex 2.

A garden is in the shape of a rectangle. The length is 10 ft less than twice the width, and the perimeter is 160 ft. Find the dimensions of the garden.

Ex 3.

The area of a triangle is 77 cm^2 . The base is 14 cm. Find the height of the triangle.

Ex 4.

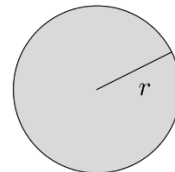
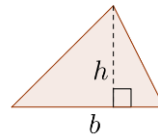
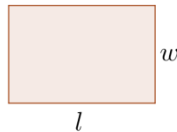
Solve $C = \frac{5}{9}(F - 32)$ for F .

Formulas to remember:

Area of rectangle: $A = lw$

Area of triangle: $A = \frac{1}{2}bh$

Area of circle: $A = \pi r^2$



Practice

1. Find the value of the variable that is not given.

$$P = 2l + 2w, P = 78, l = 12$$

2. The longest side of a triangle is 1 in. longer than the medium side. The medium side is 5 in. longer than the shortest side. If the perimeter is 32 in., what are the lengths of the three sides?

3. Solve $A = \frac{1}{2}bh$ for h .