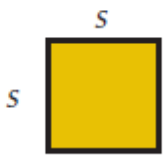
Geometry

The **perimeter** of a geometric figure is the distance around it or the sum of the lengths of its sides.

The perimeter of a rectangle is 2 times the length plus 2 times the width:

$$P = 2L + 2W$$

The perimeter of a square is 4 times the length of a side:



$$P = 4s$$

Area is always expressed in square units, since it is two-dimensional.

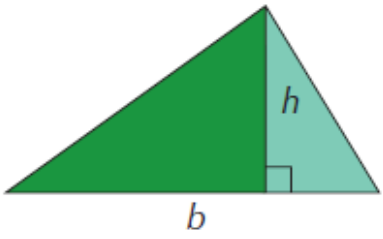
The formula for area of a rectangle is

$$A = L \cdot W.$$

The formula for area of a square is

$$A = s \cdot s \quad \text{or} \quad A = s^2.$$

The area of a triangle is one-half the product of the height and base:



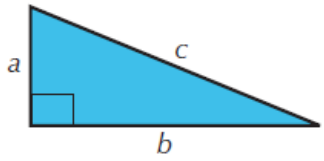
$$A = \frac{1}{2}b \cdot h$$

Geometry (continued)

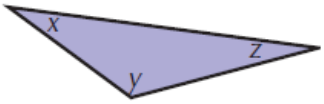
PYTHAGOREAN THEOREM

In any right triangle, if a and b are the lengths of the legs and c is the length of the hypotenuse, then

$$a^2 + b^2 = c^2.$$

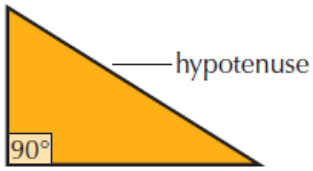


The sum of all three angles in any triangle always equals 180 degrees.



$$x^\circ + y^\circ + z^\circ = 180^\circ$$

A *right triangle* is a triangle with a 90° (right) angle. The *hypotenuse* of a right triangle is the side opposite the right angle.

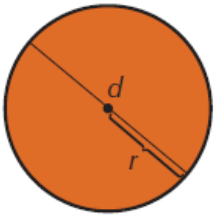


CIRCLES

Area: $A = \pi \cdot r^2$

Circumference: $C = \pi \cdot d = 2 \cdot \pi \cdot r$

where d is the diameter, r is the radius, or half the diameter, and π is approximately 3.14 or $\frac{22}{7}$.



A circle has an angle of 360 degrees.

A straight line has an angle of 180 degrees.