

# Grades 6-8

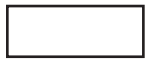
## Mathematics Reference Sheet

### Area



Triangle

$$A = \frac{1}{2}bh$$



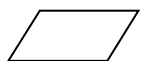
Rectangle

$$A = lw$$



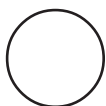
Trapezoid

$$A = \frac{1}{2}h(b_1 + b_2)$$



Parallelogram

$$A = bh$$



Circle

$$A = \pi r^2$$

In a polygon, the sum of the measures of the interior angles is equal to  $180(n - 2)$ , where  $n$  represents the number of sides.

### KEY

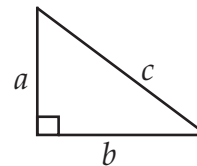
$b$ = base	$d$ = diameter
$h$ = height	$r$ = radius
$l$ = length	$A$ = area
$w$ = width	$C$ = circumference
$S.A.$ = surface area	$V$ = volume

Use 3.14 or  $\frac{22}{7}$  for  $\pi$ .

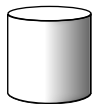
### Circumference

$$C = \pi d = 2\pi r$$

Pythagorean theorem  $c^2 = a^2 + b^2$

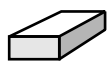


### Volume



Right Circular Cylinder

$$V = \pi r^2 h$$



Rectangular Solid

$$V = lwh$$

### Total Surface Area

$$S.A. = 2\pi rh + 2\pi r^2$$

$$S.A. = 2(lw) + 2(hw) + 2(lh)$$

### Conversions

1 yard = 3 feet = 36 inches  
 1 mile = 1,760 yards = 5,280 feet  
 1 acre = 43,560 square feet  
 1 hour = 60 minutes  
 1 minute = 60 seconds

1 cup = 8 fluid ounces  
 1 pint = 2 cups  
 1 quart = 2 pints  
 1 gallon = 4 quarts

1 liter = 1000 milliliters = 1000 cubic centimeters  
 1 meter = 100 centimeters = 1000 millimeters  
 1 kilometer = 1000 meters  
 1 gram = 1000 milligrams  
 1 kilogram = 1000 grams

1 pound = 16 ounces  
 1 ton = 2,000 pounds

Metric numbers with four digits are presented without a comma (e.g., 9960 kilometers). For metric numbers greater than four digits, a space is used instead of a comma (e.g., 12 500 liters).