Mathematics Reference Sheet

Conversions

U.S. Customary
1 foot = 12 inches
1 yard = 3 feet
1 mile = 5280 feet
1 acre ≈ 43,560 square feet
1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 231 cubic inches
1 pound = 16 ounces
1 ton = 2000 pounds
1 cubic foot ≈ 7.5 gallons

Metric
1 centimeter = 10 millimeters
1 meter = 100 centimeters
1 kilometer = 1000 meters
1 liter = 1000 milliliters
1 kiloliter = 1000 liters
1 milliliter = 1 cubic centimeter
1 liter = 1000 cubic centimeters
1 cubic millimeter = 0.001 milliliter
1 gram = 1000 milligrams
1 kilogram = 1000 grams

Time
1 minute = 60 seconds
1 hour = 60 minutes
1 hour = 3600 seconds
1 year = 52 weeks

Temperature
$$C = \frac{5}{9}(F - 32)$$
$$F = \frac{9}{5}C + 32$$

Commutative Properties of Addition and Multiplication

$a + b = b + a$ $a \cdot b = b \cdot a$

Associative Properties of Addition and Multiplication

$(a + b) + c = a + (b + c)$ $(a \cdot b) \cdot c = a \cdot (b \cdot c)$

Addition Property of Zero

$a + 0 = a$

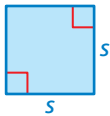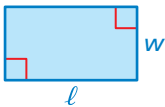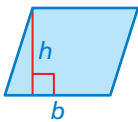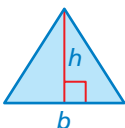## Multiplication Properties of Zero and One
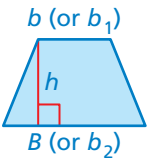
$a \cdot 0 = 0$ $a \cdot 1 = a$

Distributive Property

$a(b + c) = ab + ac$ $a(b - c) = ab - ac$

Perimeter and Area

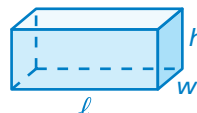| Square	Rectangle	Parallelogram	Triangle	Trapezoid
$P = 4s$ $A = s^2$	$P = 2\ell + 2w$ $A = \ell w$	$A = bh$	$A = \frac{1}{2}bh$	$A = \frac{1}{2}h(b + B)$ $A = \frac{1}{2}h(b_1 + b_2)$

Circumference and Area of a Circle

$C = \pi d$ or $C = 2\pi r$
$A = \pi r^2$
$\pi \approx \frac{22}{7}$, or 3.14
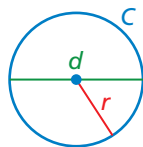
Volume of a Rectangular Prism

$V = Bh = \ell w h$