



Massachusetts Comprehensive Assessment System Grade 8 Mathematics Reference Sheet

CONVERSIONS

1 cup = 8 fluid ounces	1 inch = 2.54 centimeters	1 pound = 16 ounces
1 pint = 2 cups	1 meter \approx 39.37 inches	1 pound \approx 0.454 kilogram
1 quart = 2 pints	1 mile = 5280 feet	1 kilogram \approx 2.2 pounds
1 gallon = 4 quarts	1 mile = 1760 yards	1 ton = 2000 pounds
1 gallon \approx 3.785 liters	1 mile \approx 1.609 kilometers	
1 liter \approx 0.264 gallon	1 kilometer \approx 0.62 mile	
1 liter = 1000 cubic centimeters		

AREA (A) FORMULAS

square	$A = s^2$
rectangle	$A = bh$ OR $A = l w$
parallelogram	$A = bh$
triangle	$A = \frac{1}{2}bh$
trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
circle	$A = \pi r^2$

CIRCLE FORMULAS

area	$A = \pi r^2$
circumference	$C = 2\pi r$ OR $C = \pi d$

VOLUME (V) FORMULAS

cube	$V = s^3$ (s = length of an edge)
sphere	$V = \frac{4}{3}\pi r^3$
cone	$V = \frac{1}{3}\pi r^2 h$
right circular cylinder	$V = \pi r^2 h$
right prism	$V = Bh$

PYTHAGOREAN THEOREM

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