



Massachusetts Comprehensive Assessment System Grade 7 Mathematics Reference Sheet

CONVERSIONS

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon \approx 3.785 liters
1 liter \approx 0.264 gallon
1 liter = 1000 cubic centimeters

1 inch = 2.54 centimeters
1 meter \approx 39.37 inches
1 mile = 5280 feet
1 mile = 1760 yards
1 mile \approx 1.609 kilometers
1 kilometer \approx 0.62 mile

1 pound = 16 ounces
1 pound \approx 0.454 kilogram
1 kilogram \approx 2.2 pounds
1 ton = 2000 pounds

AREA (A) FORMULAS

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

VOLUME (V) FORMULAS

cube $V = s^3$
(s = length of an edge)
right prism $V = Bh$

TOTAL SURFACE AREA (SA) FORMULAS

right rectangular prism $SA = 2(lw) + 2(hw) + 2(lh)$
sphere $SA = 4\pi r^2$

CIRCLE FORMULAS

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