

## Massachusetts Comprehensive Assessment System Grade 7 Mathematics Reference Sheet

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### 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 . . . . .  $A = \pi r^2$

### 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)

right prism . . . . .  $V = Bh$

### TOTAL SURFACE AREA (SA) FORMULAS

right rectangular prism . .  $SA = 2(lw) + 2(hw) + 2(lh)$