



Massachusetts Comprehensive Assessment System  
Grade 7 Mathematics Reference Sheet

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**PERIMETER FORMULAS**

square . . . . .  $P = 4s$

rectangle . . . . .  $P = 2b + 2h$

OR

$$P = 2l + 2w$$

triangle . . . . .  $P = a + b + c$

**AREA 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 . . . . .  $A = \pi r^2$

**TOTAL SURFACE AREA FORMULAS**

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

cylinder . . . . .  $SA = 2\pi r^2 + 2\pi rh$

**VOLUME FORMULAS**

rectangular prism . . . . .  $V = lwh$

OR

$$V = Bh$$

( $B$  = area of a base)

cube . . . . .  $V = s^3$

( $s$  = length of an edge)

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

**CIRCLE FORMULAS**

$$C = 2\pi r$$

OR

$$C = \pi d$$

$$A = \pi r^2$$