

Massachusetts Comprehensive Assessment System Grade 8 Mathematics Reference Sheet

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

sphere $SA = 4\pi r^2$

VOLUME FORMULAS

rectangular prism $V = lwh$

OR

$$V = Bh$$

($B =$ area of a base)

cube $V = s^3$

($s =$ length of an edge)

cylinder $V = \pi r^2 h$

sphere $V = \frac{4}{3}\pi r^3$

CIRCLE FORMULAS

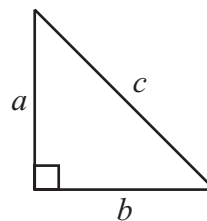
$$C = 2\pi r$$

OR

$$C = \pi d$$

$$A = \pi r^2$$

PYTHAGOREAN THEOREM



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