

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.....
$$A = bh$$

$$A = lw$$

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
 $V = Bh$
($B = \text{area of a base}$)

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

($s = \text{length of an edge}$)

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

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

CIRCLE FORMULAS

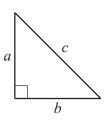
$$C = 2\pi r$$

OR

$$C = \pi d$$

$$A = \pi r^2$$

PYTHAGOREAN THEOREM



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