



## Massachusetts Comprehensive Assessment System Grade 8 Mathematics Reference Sheet

Use the information below and your ruler as needed to answer questions in this test.

---

### PERIMETER FORMULAS

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

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

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

### CIRCLE FORMULAS

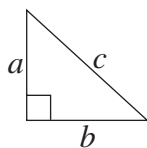
circle ..... $C = 2\pi r$

OR

$$C = \pi d$$

$$A = \pi r^2$$

### PYTHAGOREAN THEOREM



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

### CONVERSIONS

1 mile = 5280 feet

1 square mile = 640 acres

### AREA FORMULAS

square..... $A = s^2$

rectangle..... $A = bh$

OR

$$A = lw$$

triangle..... $A = \frac{1}{2}bh$

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

trapezoid ..... $A = \frac{1}{2}h(b_1 + b_2)$

### VOLUME FORMULAS

rectangular prism ..... $V = Bh$   
( $B$  = area of base)

cone..... $V = \frac{1}{3}\pi r^2 h$

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

cube..... $V = s^3$   
( $s$  = length of an edge)