

## Mathematics Formula Sheet & Explanation

The 2014 GED® Mathematical Reasoning test contains a formula sheet, which displays formulas relating to geometric measurement and certain algebra concepts. Formulas are provided to test-takers so that they may focus on *application*, rather than the *memorization*, of formulas.

### Area of a:

parallelogram

$$A = bh$$

trapezoid

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

### Surface Area and Volume of a:

rectangular/right prism

$$SA = ph + 2B$$

$$V = Bh$$

cylinder

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

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

pyramid

$$SA = \frac{1}{2}ps + B$$

$$V = \frac{1}{3}Bh$$

cone

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

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

sphere

$$SA = 4\pi r^2$$

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

( $p$  = perimeter of base  $B$ ;  $\pi \approx 3.14$ )

### Algebra

slope of a line

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

slope-intercept form  
of the equation of a line

$$y = mx + b$$

point-slope form of the  
equation of a line

$$y - y_1 = m(x - x_1)$$

standard form of a  
quadratic equation

$$y = ax^2 + bx + c$$

quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Pythagorean Theorem

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

simple interest

$$I = prt$$

( $I$  = interest,  $p$  = principal,  $r$  = rate,  $t$  = time)