

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:		
square	$A = s^2$	
rectangle	A = lw	
parallelogram	A = bh	
triangle	$A = \frac{1}{2}bh$	
trapezoid	$A = \frac{1}{2} h(b_1 + b_2)$	
circle	$A = \pi r^2$	
Perimeter of a:		
square	P = 4s	
rectangle	P=2/+2w	
triangle	$P = s_1 + s_2 + s_3$	
Circumference of a circle	$C = 2\pi r \text{ OR } C = \pi d; \pi \approx 3.14$	
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 = πrs + πr^2	$V = \frac{1}{3} \pi r^2 h$
sphere	$SA = 4\pi r^2$	$V = \frac{4}{3} \pi r^3$
	(<i>p</i> = perimeter of base with area <i>B</i> ; $\pi \approx 3.14$)	
Data		
mean	mean is equal to the total of the values of a data set, divided by the number of elements in the data set	
median	median is the middle value in an odd number of ordered values of a data set, or the mean of the two middle values in an even number of ordered values in a data set	
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 ($I = interest, P = principal, r = rat$	te, <i>t</i> = time)
distance formula	d = rt	
total cost	total cost = (number of units) × (price per unit)	

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