

GMAT Formulas

Algebra Formulas

Exponential Equations

$$x^n x^m = x^{n+m}$$

$$(x^n)/(x^m) = x^{n-m}$$

$$(x/y)^n = (x^n)/(y^n)$$

$$x^n y^n = (xy)^n$$

$$(x^y)^z = x^{yz}$$

$$x^{-n} = 1/(x^n)$$

$$1^n = 1$$

$$x^0 = 1$$

$$0^n = 0, \text{ except } 0^0 = 1$$

$$FV = CV(1 + g)^T$$

Other

$$\text{Distance} = \text{Rate} * \text{Time}$$

$$\text{Wage} = \text{Rate} * \text{Time}$$

Arithmetic Formulas

Combinatorics

$$\text{Combinations: } {}_n C_k = n!/((n-k)k!)$$

$$\text{Permutations: } {}_n P_k = n!/(n-k)!$$

$$\text{Circular: } (n-1)!$$

k = number of objects selected from a pile of n objects

n = total number of objects from which k objects can be selected

Fractions

$$(a/b)/(c/d) = (a/b) * (d/c)$$

Percents

Percent Change, as a decimal = (New - Old)/Old

$N = (1 + G)O$; N = New Value, O = Old Value, G = Growth Rate as decimal

Number Properties

(Odd)(Even) = Even

(Odd)(Odd) = Odd

(Even)(Even) = Even

(Odd) \pm (Even) = Odd

(Odd) \pm (Odd) = Even

(Even) \pm (Even) = Even

(Positive)(Positive) = Positive

(Positive)(Negative) = Negative

(Negative)(Negative) = Positive

(Positive)/(Negative) = Negative

(Positive)/(Positive) = Positive

(Negative)/(Negative) = Positive

Statistics

Average (Arithmetic Mean): (sum of all numbers)/(number of numbers)

Geometry Formulas

Angles

Sum of Interior Angles of Polygon = $(n-2)(180)$

n = number of sides of a polygon

Central Angle = $2(\text{Inscribed Angle})$

Area

Square: $A = a^2$

Rectangle: $A = lw$

Parallelogram: $A = bh$

Trapezoid: $A = .5(a+c)h$, where a and c are the lengths of the parallel sides

Circles

$\pi = \text{pi} = 3.1415$

Area: $A = \pi r^2$

Circumference: $C = 2\pi r$

Central Angle = $2(\text{Inscribed Angle})$

Area of Sector = $(x/360)\pi r^2$

Perimeter

Square: $P = 4l$

Rectangle: $P = 2w + 2l$

Parallelogram: $P = 2b + 2a$, where a and b are the lengths of the non-parallel sides

Circle: $P = 2\pi r$

Triangles

Area: $A = .5bh$

Pythagorean Theorem: $A^2 + B^2 = C^2$ where A = one leg, B = the other leg, C = hypotenuse

Volume

Cube: $V = a^3$ where a is the length of a side

Rectangular Solid: $V = hwl$

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

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