

PREPSCHOLAR GMAT FORMULAS PDF

GMAT Geometry Formulas

AREA & PERIMETER FORMULAS

Square: Area: $(\text{length})^2$ | Perimeter: $4(\text{length})$

Rectangle: Area: $\text{length} * \text{width}$ | Perimeter: $2(\text{length}) + 2(\text{width})$

Parallelogram: Area: $\text{base} * \text{height}$ | Perimeter: $2(\text{base}) + 2(\text{height})$

Circles: Area: πr^2 | Circumference of a circle: $2\pi r$

Triangle: Area: $(1/2) \text{base} * \text{height}$ | Pythagorean Theorem (for determining the length of sides of a right triangle): $a^2 + b^2 = c^2$

Trapezoid: Area: $(1/2) (a+c)/h$ where a and c are the length of the parallel sides

CIRCLE FORMULAS

Central Angle: $2(\text{inscribed angle})$

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

VOLUME FORMULAS

Cube: $(\text{length})^3$

Rectangular prism: $\text{length} * \text{width} * \text{height}$

Cylinder: $\pi r^2 h$

Cone: $(1/3) \pi r^2 h$

Pyramid: $(1/3) \text{base length} * \text{base width} * \text{height}$

Sphere: $(4/3)\pi r^3$

GMAT Arithmetic Formulas

ORDER OF OPERATIONS

Parentheses – Exponents – Multiplication – Division – Addition – Subtraction (PEMDAS)

NUMBER PROPERTIES

(Positive Number) * (Positive Number) = (Positive Number)

(Positive Number) * (Negative Number) = (Negative Number)

(Negative Number) * (Negative Number) = (Positive Number)

(Positive Number) / (Positive Number) = (Positive Number)

(Positive Number) / (Negative Number) = (Negative Number)

(Negative Number) / (Negative Number) = (Positive Number)

(Odd Number) + (Odd Number) = (Even Number)

(Odd Number) – (Odd Number) = (Even Number)

(Odd Number) + (Even Number) = (Odd Number)

(Odd Number) – (Even Number) = (Odd Number)

(Even Number) + (Even Number) = (Even Number)

(Even Number) – (Even Number) = (Even Number)

(Odd Number) * (Odd Number) = (Odd Number)

(Odd Number) * (Even Number) = (Even Number)

(Even Number) * (Even Number) = (Even Number)

PERMUTATIONS AND COMBINATIONS

Permutation formula: ${}_n P_r = n! / (n-r)!$

Combination formula: ${}_n C_r = n! / (r!)(n-r)!$

PROBABILITY

Probability = (Number of favourable outcomes) / (Number of all possible outcomes)

Probability of events A & B happening = (Probability of A) * (Probability of B)

Probability of either event A or B happening = (Probability of A) + (Probability of B)

GMAT Algebra Formulas

ABSOLUTE VALUE

$|x|$ depicts the absolute value.

$$|x| = x$$

$$|-x| = x$$

$$|x| = |-x|$$

$$|x| \geq 0$$

$$|x| + |y| \geq |x+y|$$

BASE - EXPONENT RELATIONSHIPS

In the expression x^n , 'x' is the base and 'n' is the exponent. The way to interpret is that the base 'x' gets multiplied 'n' times.

Some rules and formulas that apply to base/exponents:

$$0^n = 0$$

$$1^n = 1$$

$$x^0 = 1$$

$$x^1 = x$$

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

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

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

$$(x^m)^n = x^{m*n}$$

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

QUADRATIC EQUATIONS

$$ax^2 + bx + c = 0$$

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

INTEREST

Simple Interest = $P*r*t$

P = starting principle; r = annual interest rate; t = number of years

Annual Compound Interest = $P(1+r)^t$

Compound Interest = $P(1 + r/x)^{xt}$; x = number of times the interest compounds over the year

OTHER

Distance = Speed * Time

Wage = Rate * Time