

Fundamentals of Algebra Formulas

Properties of Exponents

$$a^m a^n = a^{m+n} \quad (a^m b^n)^p = a^{mp} b^{np} \quad \frac{a^m}{a^n} = a^{m-n}$$
$$\left(\frac{a^m}{b^n}\right)^p = \frac{a^{mp}}{b^{np}} \quad (a^m)^n = a^{mn} \quad b^{-p} = \frac{1}{b^p}$$

Rectangle

$$P = 2L + 2W$$

$$A = LW$$

Cube

$$V = s^3$$

Uniform Motion

$$d = rt$$

$$r = \frac{d}{t}$$

$$t = \frac{d}{r}$$

Factoring

Difference of Two Squares:

$$a^2 - b^2 = (a + b)(a - b)$$

Sum of Two Cubes:

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

Difference of Two Cubes:

$$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$

Perfect Square Trinomials:

$$a^2 + 2ab + b^2 = (a + b)^2$$

$$a^2 - 2ab + b^2 = (a - b)^2$$