Pre-Calculus and Foundation 10 - Formula Sheet

Trigonometry

SOHCAHTOA

$\sin\theta = \frac{opposite}{hypotenuse}$

$\cos\theta = \frac{adjacent}{hypotenuse}$

$\tan\theta = \frac{opposite}{adjacent}$

Pythagorean Theorem

$a^2 + b^2 = c^2$ (*hypotenuse*)

$\measuredangle A + \measuredangle B + \measuredangle C = 180^o$

Slope = m

$m = \frac{rise}{run}$

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

Exponent Rules

$(x^a)(x^b) = x^{a+b}$

$\frac{x^a}{x^b} = x^{a-b}$

$(x^a)^b = x^{ab}$

$x^{-m} = \frac{1}{x^m}$ **or** $\left(\frac{x}{y}\right)^{-m} = \left(\frac{y}{x}\right)^{m} = \frac{y^m}{x^m}$

$\sqrt[n]{x^m} = x^{\frac{m}{n}}$

$x^0 = 1$

Linear Equations

$y = mx + b$ · $\boldsymbol{slope - intercept}\ form$

$y - y_1 = m(x - x_1)$ · $\boldsymbol{slope - point}\ form$

$Ax + By + C = 0$ · $\boldsymbol{general}\ form$

$Ax + By = C$ · $\boldsymbol{standard}\ form$

General term

$t_n = t_1 + (n-1)d$