

For Linear Equations: $y = mx + b$

$$\text{slope} = m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1} \quad m_{\perp} = \frac{1}{m} \quad m_{\parallel} = m$$

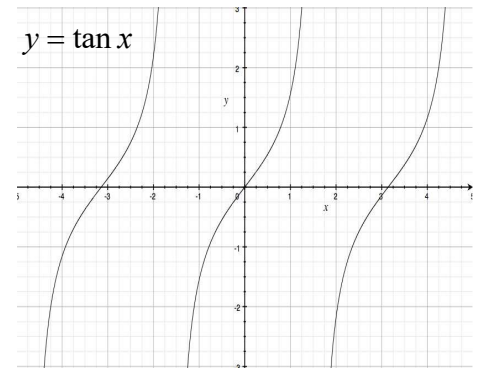
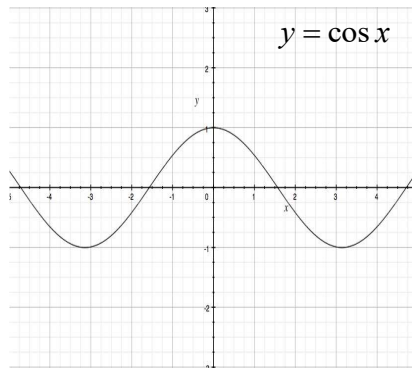
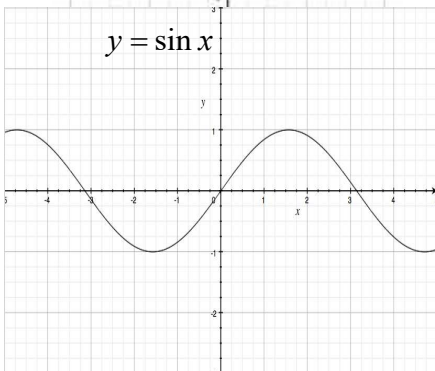
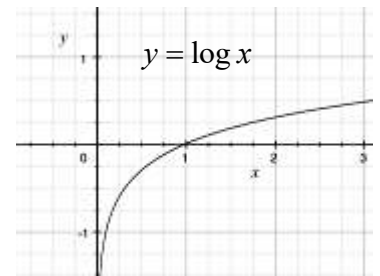
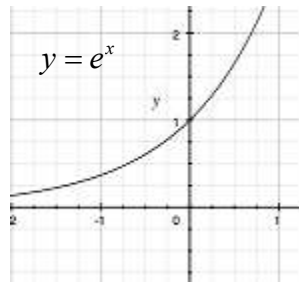
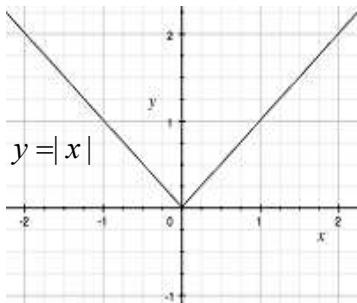
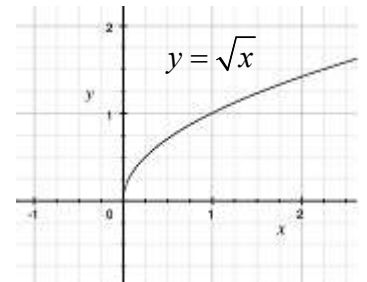
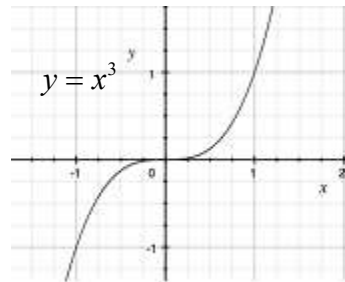
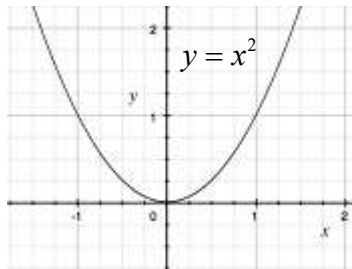
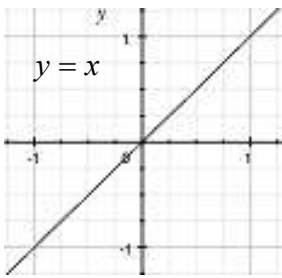
For Quadratic Equations $y = ax^2 + bx + c$

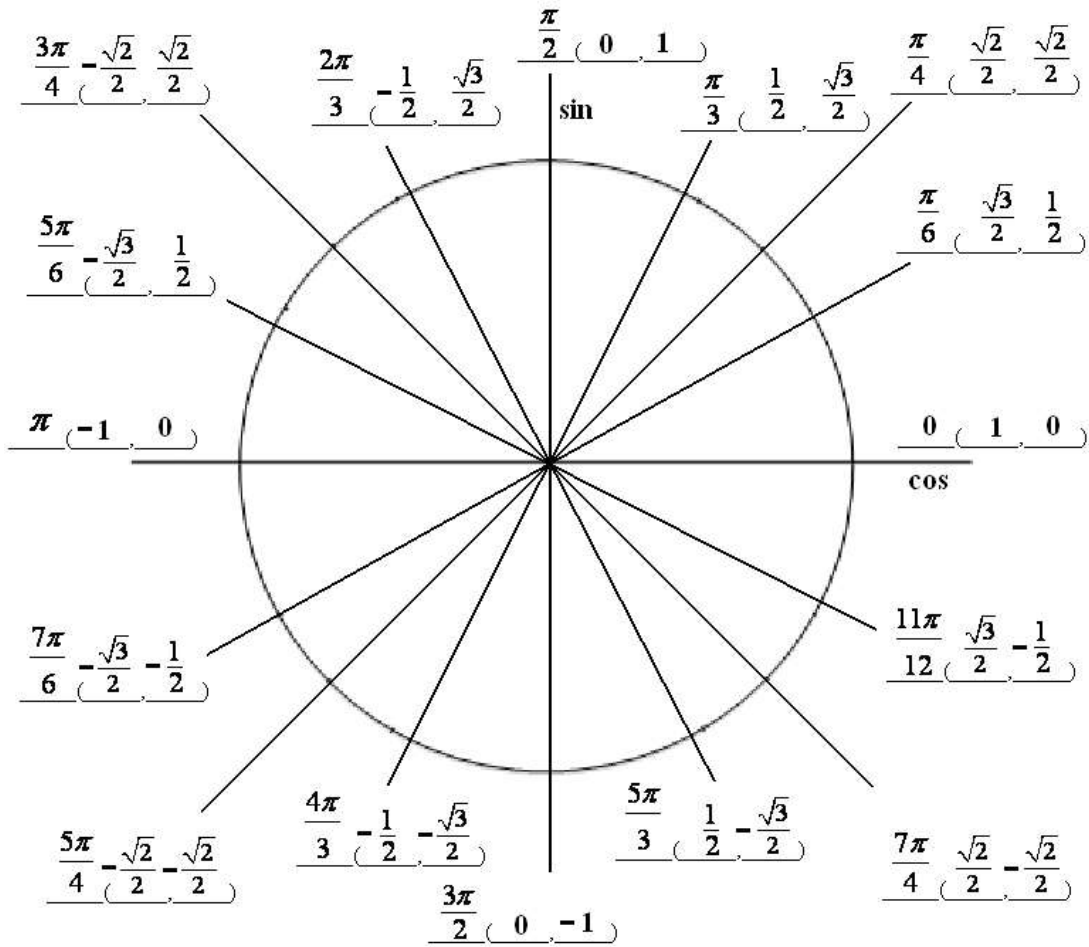
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Trigonometric Functions

$$\sin = \frac{\textit{opposite}}{\textit{hypotenuse}} \quad \cos = \frac{\textit{adjacent}}{\textit{hypotenuse}} \quad \tan = \frac{\textit{opposite}}{\textit{adjacent}} = \frac{\sin}{\cos}$$

Basic Functions and their Parent Graph





π radian = 180 degrees

Adding or Subtracting Functions

$f \pm g =$ Combine alike term

Multiplying Functions

$f \cdot g =$ Multiply each term (FOIL in most cases)

Rational Functions or Dividing Functions

$\frac{f}{g} =$ Use polynomial division or synthetic division

Composite Functions

$f \circ g =$ Substitute function "g" into "f" then combine alike terms