C12 - 0.0 - General Equation Graphs

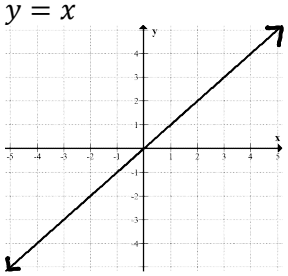
Real Life! $x-int\ (x,0)$ $y-int\ (0,y)$

Polynomial $x \in \mathbb{R}$

Linear

$y = mx + b$

$y = x$

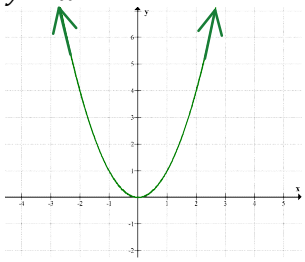


$y \in \mathbb{R}$

Quadratic

$y = a(x-h)^2 + k$

$y = x^2$

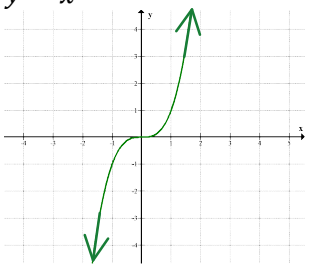


$y \geq, \leq k$

Cubic/Quartic/Quintic…

$y = ax^3 + bx^2 + cx + d$

$y = x^3$



x^{0dd}

$y \in \mathbb{R}$

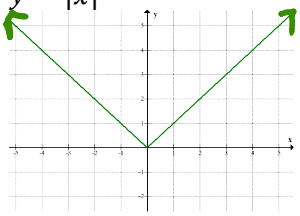
x^{even}

$y \geq, \leq Min, Max$

Absolute Value

$y = a|b(x-h)| + k$

$y = |x|$

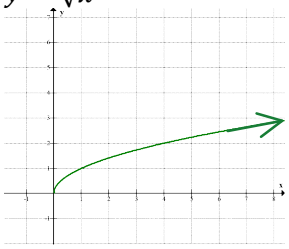


$x \in \mathbb{R}$ $y \geq, \leq k$

Radical

$y = a\sqrt{b(x-h)} + k$

$y = \sqrt{x}$



$b(x-h) \geq 0$

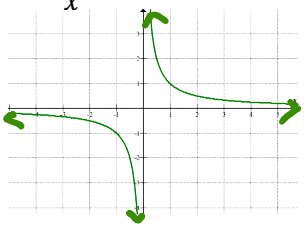
$y \geq, \leq k$

$Vertex\ (h,k)$

Rational

$y = \left(\frac{a}{x-h}\right) + k$

$y = \frac{1}{x}$



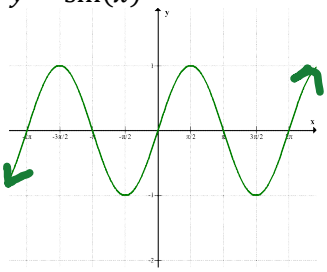
$y \neq (Depends)$

$(x-h) \neq 0$

Trigonometric

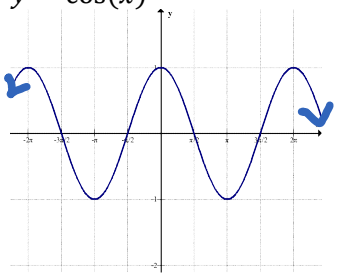
$y = \mathrm{a}\sin(b(x-h)) + k$

$y = \sin(x)$



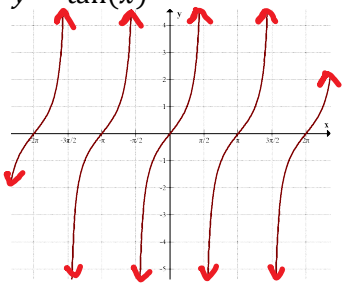
$y = \mathrm{a}\cos(b(x-h)) + k$

$y = \cos(x)$



$y = \mathrm{a}\tan(b(x-h)) + k$

$y = \tan(x)$



$y \in \mathbb{R}$

$b(x-h) \neq \frac{\pi}{2} + n\pi$

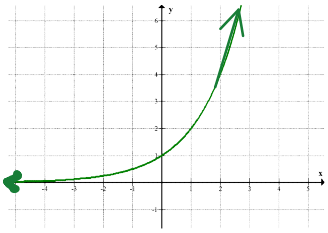
$x \in \mathbb{R}$

$k - |a| \leq y \leq k + |a|$

Exponential

$y = a(C)^{b(x-h)} + k$

$y = 2^x$



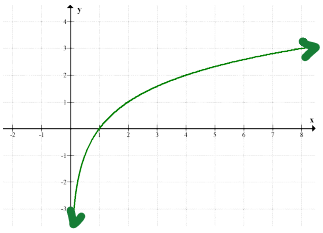
$x \in \mathbb{R}$

$y <, > k$

Logarithmic

$y = alog(b(x-h)) + k$

$y = \log_2 x$



$b(x-h) > 0$

$y \in \mathbb{R}$

$\log_b a$

$a > 0, b > 0, b \neq 1$