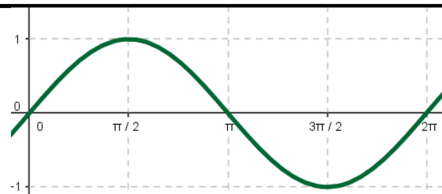
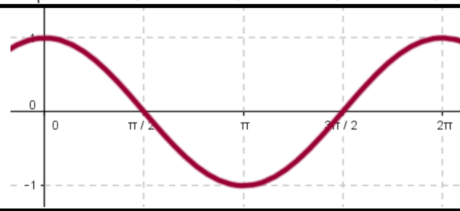
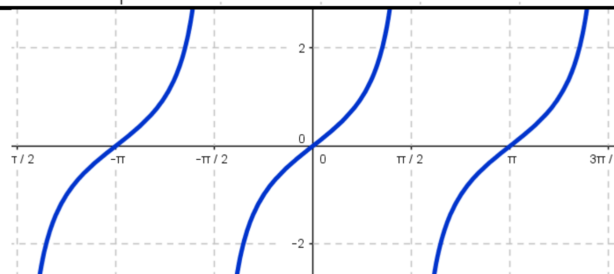
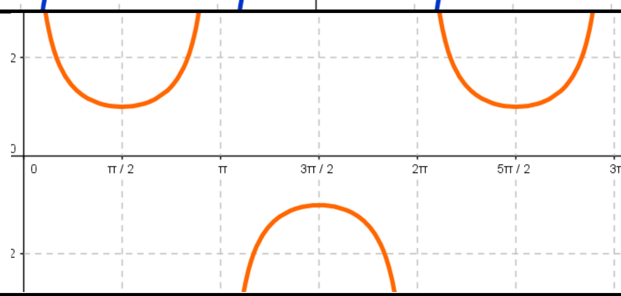
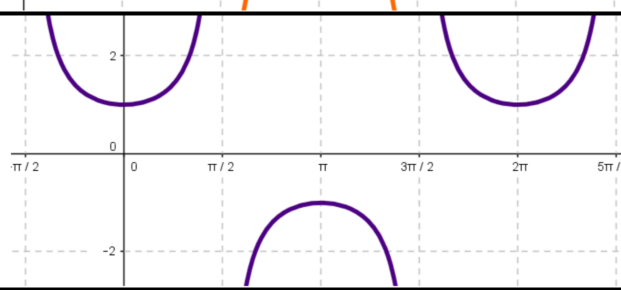
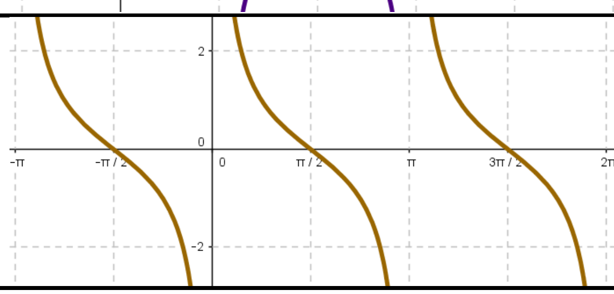
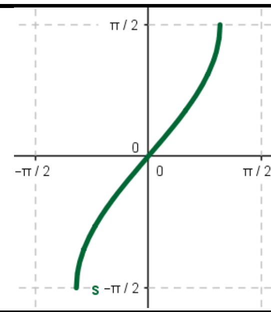
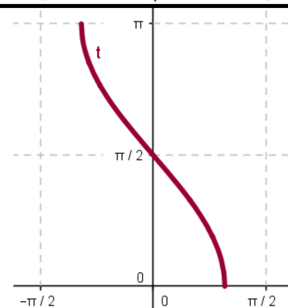
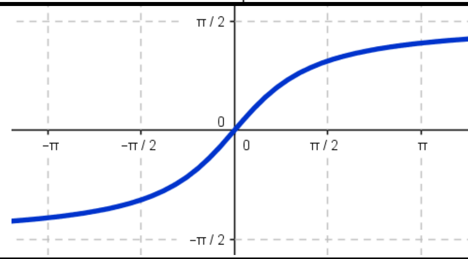
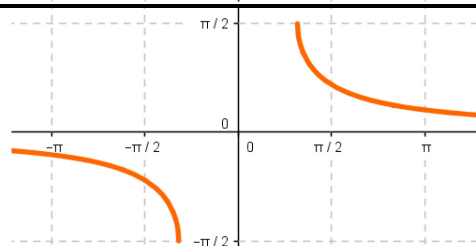
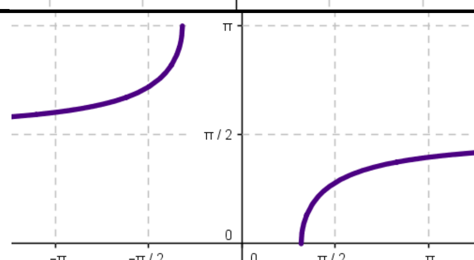
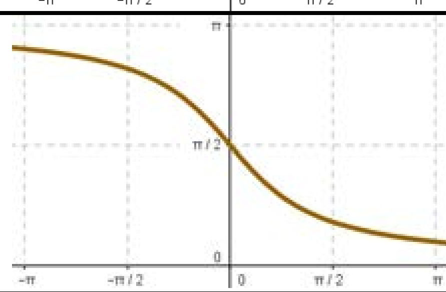
Graphs of Trigonometry Functions

Function Name	Parent Function	Graph of Function	Characteristics
Sine	$f(x) = \sin(x)$		Domain: $(-\infty, \infty)$ Range: $[-1, 1]$ Odd/Even: Odd Period: 2π
Cosine	$f(x) = \cos(x)$		Domain: $(-\infty, \infty)$ Range: $[-1, 1]$ Odd/Even: Even Period: 2π
Tangent	$f(x) = \tan(x)$ $= \dfrac{\sin(x)}{\cos(x)}$		Domain: $(-\infty, \infty)$ except for $x = \frac{\pi}{2} \pm n\pi$ Range: $(-\infty, \infty)$ Odd/Even: Odd Period: π Asymptotes at $x = \frac{\pi}{2} \pm n\pi$
Cosecant	$f(x) = \csc(x)$ $= \dfrac{1}{\sin(x)}$		Domain: $(-\infty, \infty)$ except for $x = \pm n\pi$ Range: $(-\infty, -1] \cup [1, \infty)$ Odd/Even: Odd Period: 2π
Secant	$f(x) = \sec(x)$ $= \dfrac{1}{\cos(x)}$		Domain: $(-\infty, \infty)$ except for $x = \frac{\pi}{2} \pm n\pi$ Range: $(-\infty, -1] \cup [1, \infty)$ Odd/Even: Even Period: 2π
Cotangent	$f(x) = \cot(x)$ $= \dfrac{1}{\tan(x)}$ $= \dfrac{\cos(x)}{\sin(x)}$		Domain: $(-\infty, \infty)$ except for $x = \pm n\pi$ Range: $(-\infty, \infty)$ Odd/Even: Odd Period: π Asymptotes at $x = \pm n\pi$

General Form: $f(x) = a\sin[b(x-h)] + k$ *This general form can be used for any trigonometric function*

Graphs of Inverse Trigonometry Functions

Function Name	Parent Function	Graph of Function	Characteristics
Inverse Sine	$f(x) = \sin^{-1}(x)$ $= \arcsin(x)$		Domain: $[-1,1]$ Range: $\left[\frac{-\pi}{2}, \frac{\pi}{2}\right]$
Inverse Cosine	$f(x) = \cos^{-1}(x)$ $= \arccos(x)$		Domain: $[-1,1]$ Range: $[0, \pi]$
Inverse Tangent	$f(x) = \tan^{-1}(x)$ $= \arctan(x)$		Domain: $(-\infty, \infty)$ Range: $\left(\frac{-\pi}{2}, \frac{\pi}{2}\right)$
Inverse Cosecant	$f(x) = \csc^{-1}(x)$ $= \text{arccsc}(x)$		Domain: $(-\infty, -1] \cup [1, \infty)$ Range: $\left[\frac{-\pi}{2}, \frac{\pi}{2}\right], y \neq 0$
Inverse Secant	$f(x) = \sec^{-1}(x)$ $= \text{arcsec}(x)$		Domain: $(-\infty, -1] \cup [1, \infty)$ Range: $[0, \pi], y \neq \frac{\pi}{2}$
Inverse Cotangent	$f(x) = \cot^{-1}(x)$ $= \text{arccot}(x)$		Domain: $(-\infty, \infty)$ Range: $(0, \pi)$