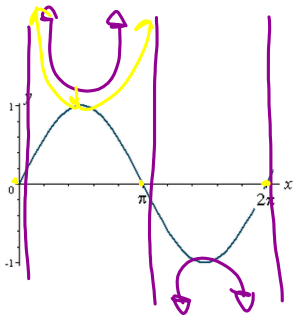
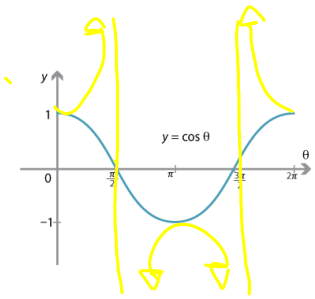
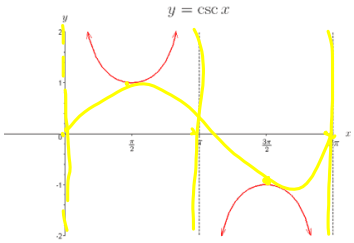
Warm UP 1/11/16

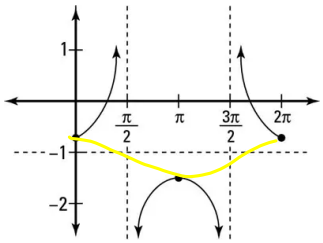
From the graphed sine/cosine functions, draw in the csc/sec graphs.





From the graphed cosecant/secant functions, draw in the sine/cosine function





LT: Graph tangent and cotangent functions and their transformations

Part I: Tangent

- ☆ 1 Period is π $2Per = \frac{2\pi}{b}$ cos x Per = 2π
- ☆ Graph 2 Periods (determines interval)

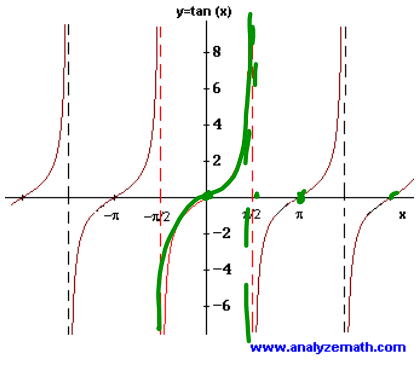
Let's Graph f(x) = tanx

Amp.= 1 $0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}, 2\pi$

V.S.- None

$2Per. = \frac{2\pi}{b} = 2\pi$

$Int. = \frac{\pi}{2}$



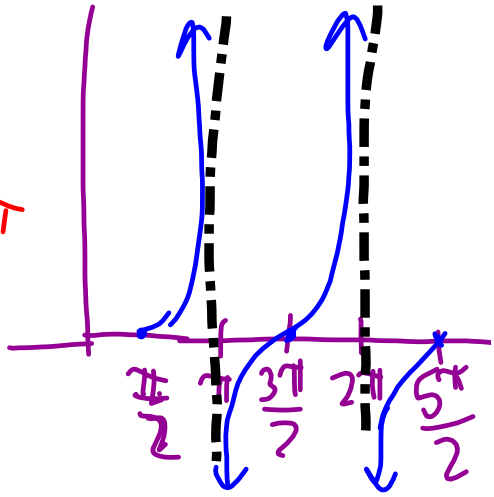
Ex 1) Graph 2 periods of: $f(x) = \tan\left(x - \frac{\pi}{2}\right)$ DADAD

Amp.= 1 Int.: $\frac{\pi}{2}$

2 Per.: 2π $\frac{\pi}{2}, \pi, \frac{3\pi}{2}, 2\pi, \frac{5\pi}{2}$

V.S.- None

H.S.- $x - \frac{\pi}{2} = 0$; $x = \frac{\pi}{2}$



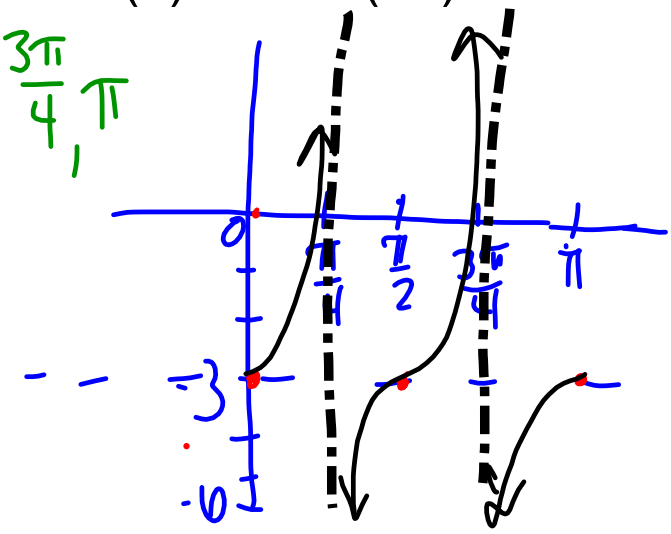
Ex 2) Graph 2 periods of: $f(x) = 3\tan(2x) - 3$

Amp.= 3 $0, \frac{\pi}{4}, \frac{\pi}{2}, \frac{3\pi}{4}, \pi$

Per.: $\frac{2\pi}{2} = \pi$

Int.: $\frac{\pi}{4}$

V.S.: -3



Ex 3) Graph 2 periods of: $f(x) = \tan(\frac{1}{2}x - \frac{\pi}{2})$

Amp.= 1

2Per.= 4π

Int.= π

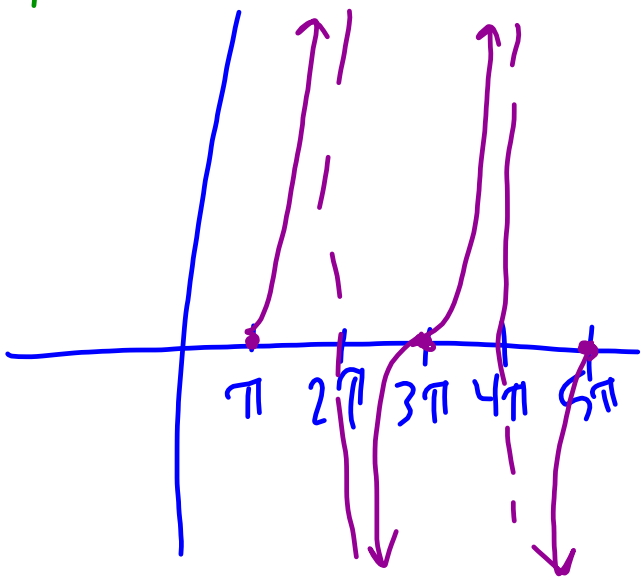
V.S.=None

H.S.= $\frac{1}{2}x - \frac{\pi}{2} = 0$

$\frac{1}{2}x = \frac{\pi}{2}$

$x = \pi$

$\pi, 2\pi, 3\pi, 4\pi, 5\pi$



Ex 4) Graph 2 periods of: $f(x) = -5\tan(\frac{\pi}{2}x)$

Amp.= 5

2Per.= $\frac{2\pi}{\frac{\pi}{2}} = 4$

Int.= 1

V.S.=None

H.S.=None

0, 1, 2, 3, 4

$\frac{2\pi}{\frac{\pi}{2}}$

$2\pi \cdot \frac{2}{\pi} = 4$