Warm Up 1/26/17

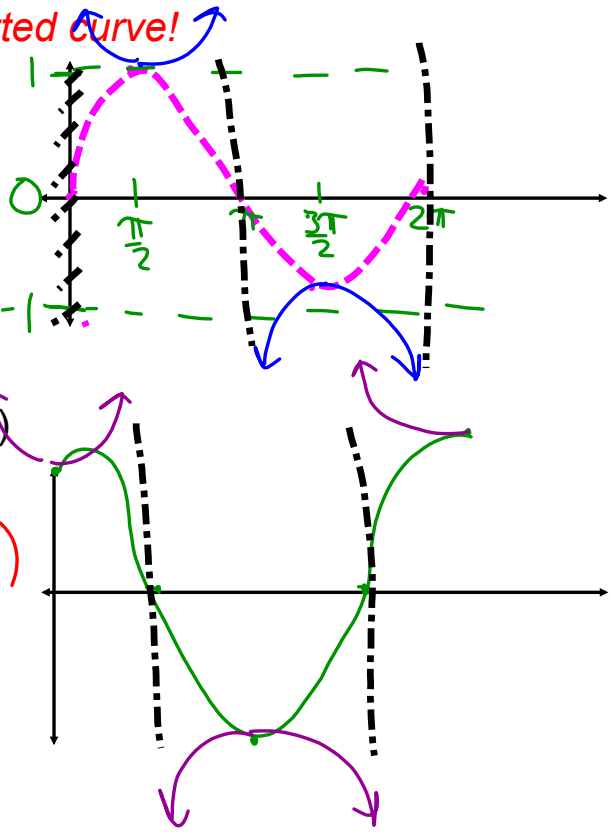
Graph *as a dotted curve!*

a) f(x) = sinx

Per. $= \frac{2\pi}{1} = 2\pi$

$f(x) = \csc x$

$\frac{1}{\sin x} = \csc x$



b) f(x) = cos(x)

$f(x) = \sec(x)$

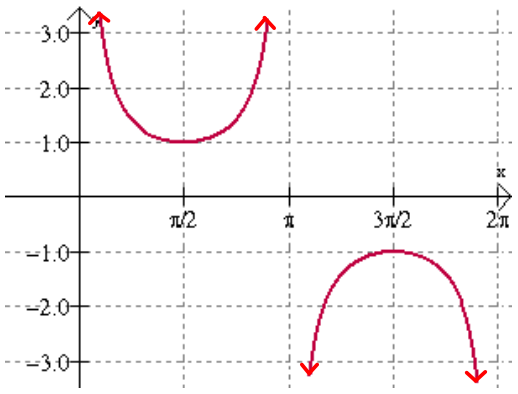
$\frac{1}{\cos x}$

LT: Graph Cosecant and Secant Functions

Using your graph from warm up part a...

- ☆ Draw asymptotes everywhere the graph hits the center (in this case, the x-intercepts)
- ☆ From the top of the hill, draw an up-ward U
- ☆ From the bottom of the valley, draw a down-ward U

This is the graph of y = csc x (cosecant)

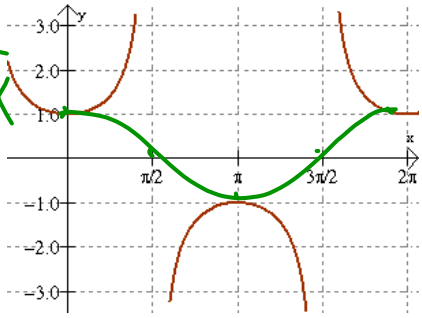


Draw asymptotes everywhere the graph hits the center (in this case, the x-intercepts)
From the top of the hill, draw an up-ward U
From the bottom of the valley, draw a down-ward U

This is the graph of y = sec x (secant)

$\csc x = \frac{1}{\sin x}$

$\sec x = \frac{1}{\cos x}$



Ex 1) Graph y = 2csc(x + π) - 1

Amp. = 2

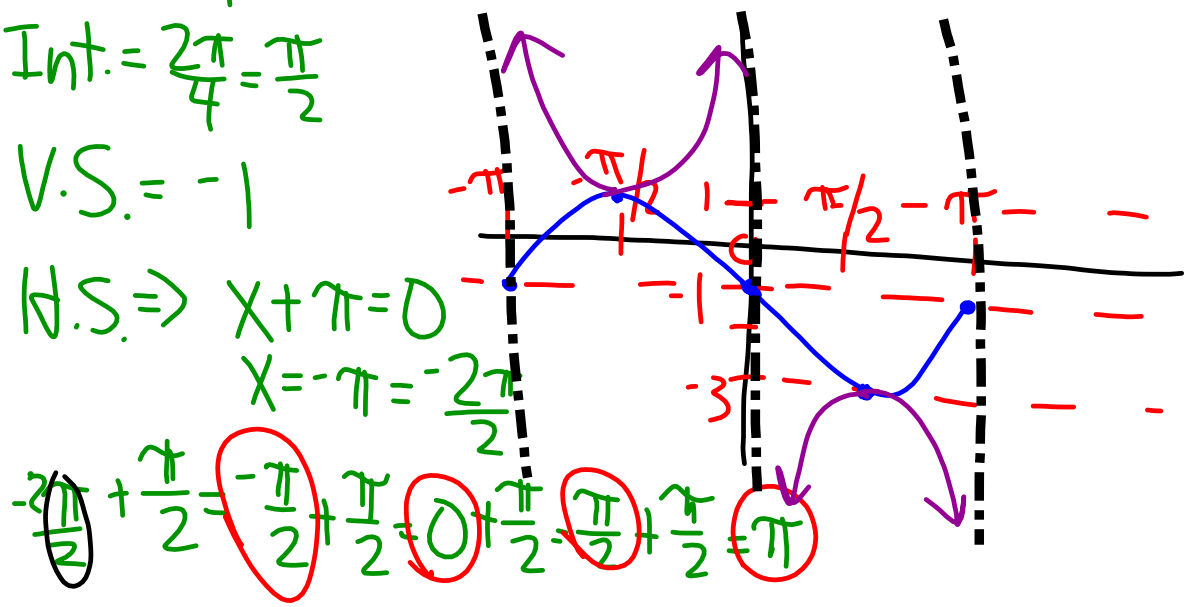
Per. $= \frac{2\pi}{1} = 2\pi$

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

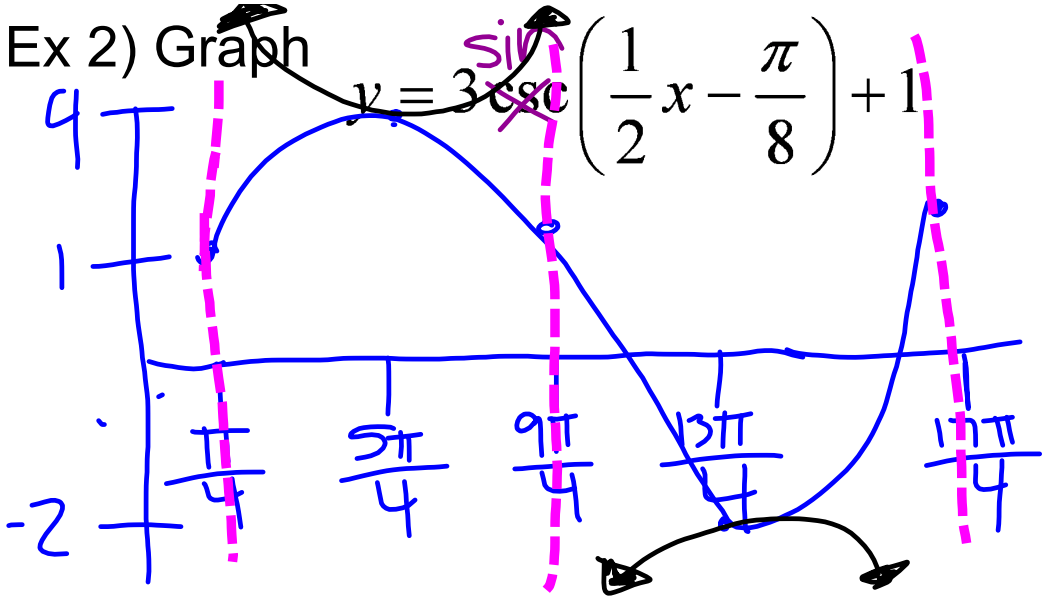
V.S. = −1

H.S. $\Rightarrow x + \pi = 0$

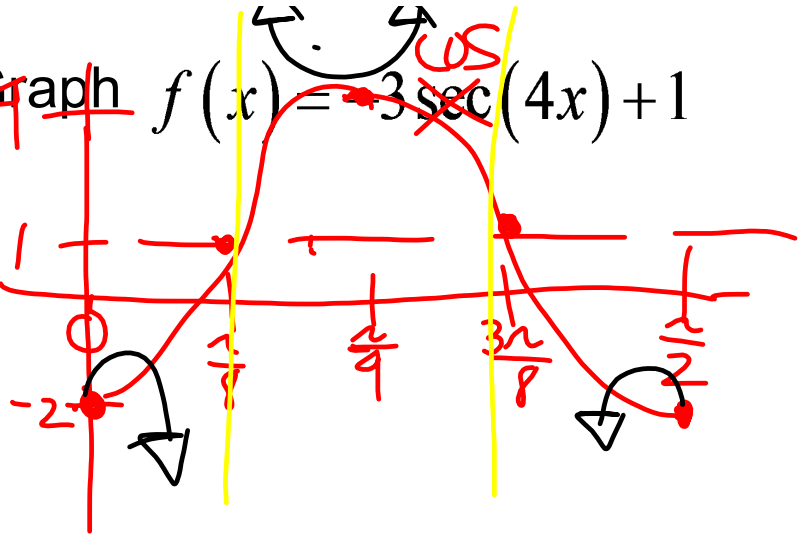
$x = -\pi = -\frac{2\pi}{2}$



Ex 2) Graph $y = 3\csc\left(\frac{1}{2}x - \frac{\pi}{8}\right) + 1$



Ex 3) Graph $f(x) = -3\sec(4x) + 1$



Ex 4) Graph $y = 2\sec\left(2x + \frac{\pi}{4}\right) + 2$

Ex 5) Graph $y = -3\csc\left(\frac{1}{2}x\right) - 2$

Ex 6) Graph $y = 5\sec\left(\pi x - 5\pi\right)$