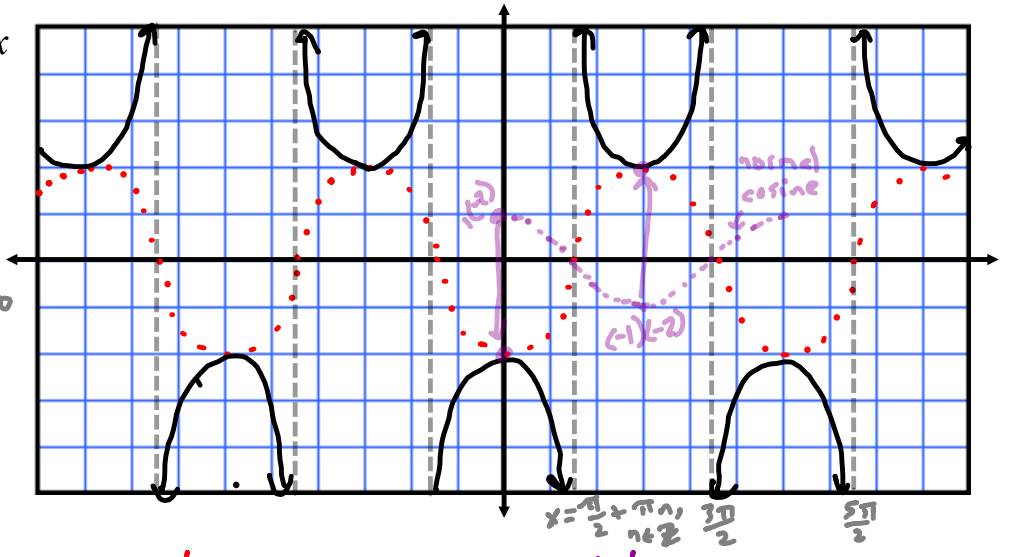
1) $f(x) = -2 \sec x$

amplitude ↑
multiply points by -2

asymptotes where $\cos x = 0$



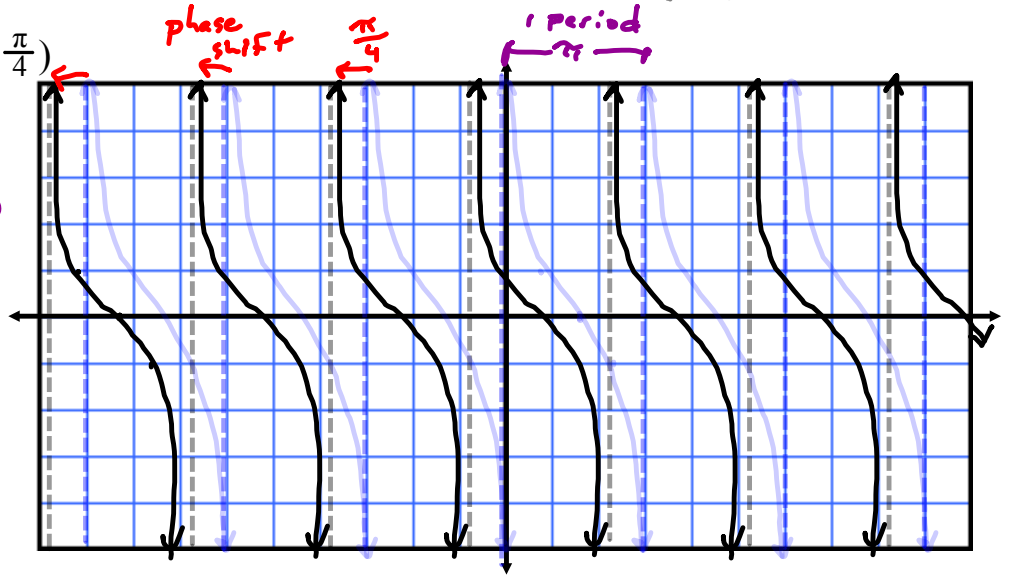
2) $g(x) = \cot\left(x + \frac{\pi}{4}\right)$

pd = π (normal for cotangent)

phase shift $-\frac{c}{b}$

$-\frac{\frac{\pi}{4}}{1} = -\frac{\pi}{4}$

or $\frac{\pi}{4}$ to the left

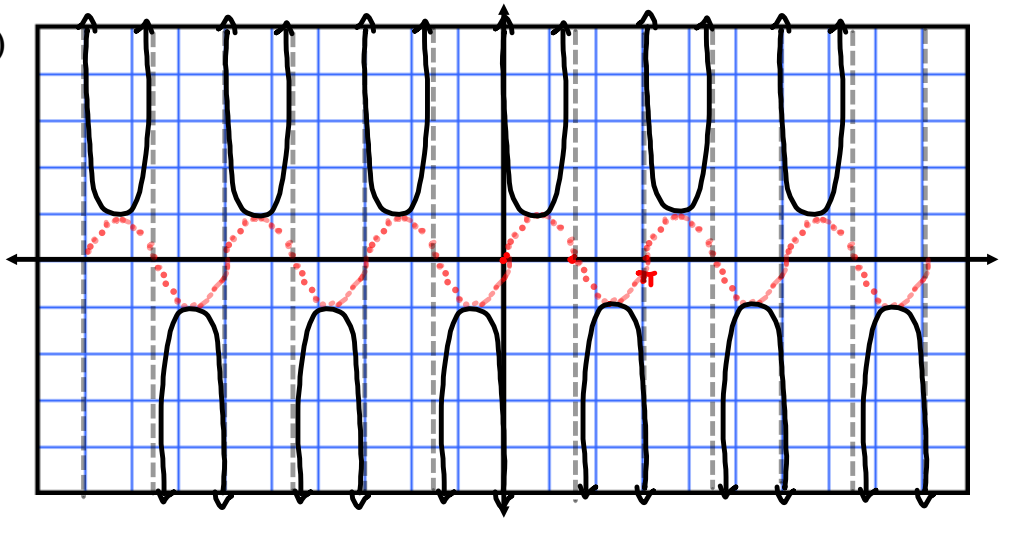


3) $h(x) = \csc(2x)$

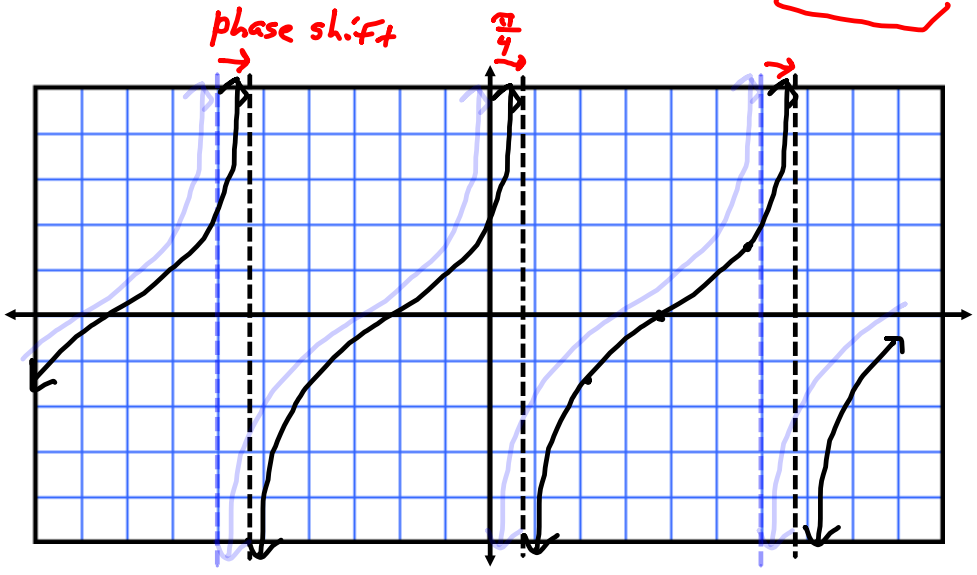
first examine $\sin(2x)$

pd $= \frac{2\pi}{2} = \pi$

place asymptotes where $\sin(2x) = 0$



4) $j(x) = -\frac{\pi}{2}\cot\left(\frac{1}{2}x - \frac{\pi}{8}\right)$ pd = $\frac{\pi}{\frac{1}{2}} = 2\pi$ phase shift $-\frac{-\frac{\pi}{8}}{\frac{1}{2}} = \frac{\pi}{4}$ to the right



5) $k(x) = \frac{2}{3}\sec\left(\frac{2}{3}x + \frac{2\pi}{3}\right)$

find period 1st

pd $\frac{2\pi}{\frac{2}{3}} = \frac{2\pi}{1}\cdot\frac{3}{2} = 3\pi$

draw cos x with period 3π and amplitude $\frac{2}{3}$

next draw the asymptotes for this lightly. We will do the phase shift next

now draw the phase shift asymptotes

$-\frac{2\pi}{3} = -\frac{2\pi}{3}\cdot\frac{3}{2}$

$\frac{2}{3} = -\pi$ to the left. or π to the left.

now dot in new cosine.

Finally, draw sec loops