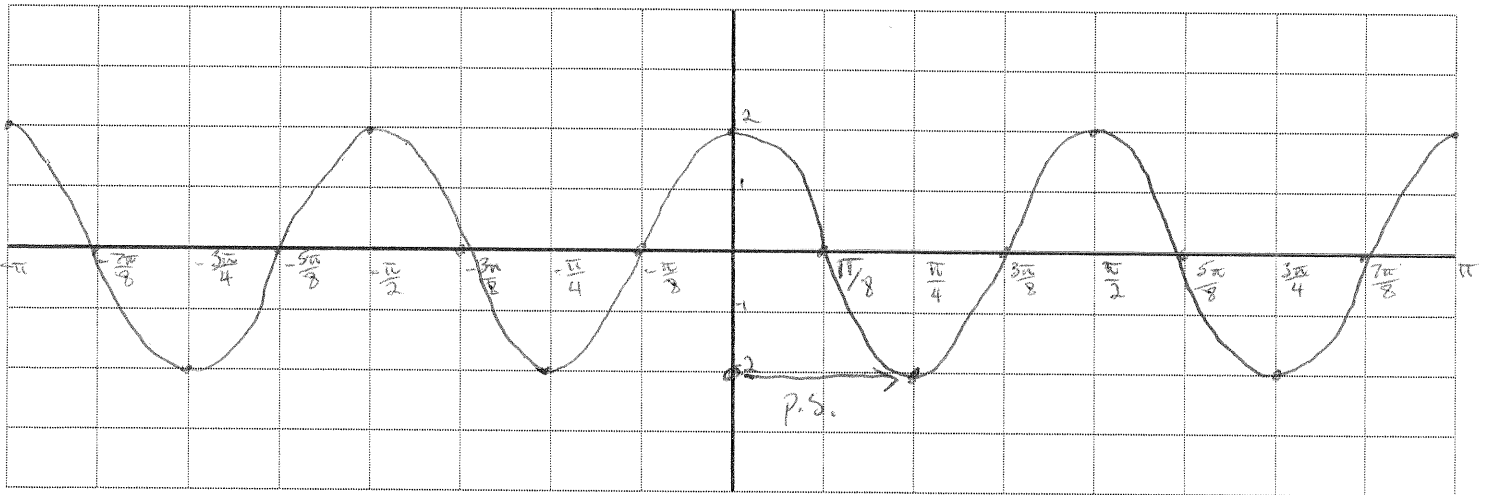


Graphing Review for final

Function	Amplitude	Period	Phase shift	Domain	Range
$y = -4 \cos \frac{2x}{3}$	4	$\frac{2\pi}{\frac{2}{3}} = 3\pi$	0	$(-\infty, \infty)$	$[-4, 4]$
$y = \frac{1}{4} \sin \left(\frac{x}{2} - \frac{\pi}{4} \right)$	$\frac{1}{4}$	$\frac{2\pi}{\frac{1}{2}} = 4\pi$	$\frac{\frac{\pi}{4}}{\frac{1}{2}} = \frac{\pi}{2}$	$(-\infty, \infty)$	$[-\frac{1}{4}, \frac{1}{4}]$
$y = 2 \sec(2x - \pi)$	N/A	$\frac{2\pi}{2} = \pi$	$\frac{\pi}{2} = \frac{\pi}{2}$	$\left\{ x : x \neq \frac{\pi}{4} + \frac{\pi n}{2} \right\}$	$(-\infty, -2] \cup [2, \infty)$
$y = \frac{2}{3} \tan \left(x - \frac{\pi}{2} \right)$	N/A	π	$\frac{\pi}{2}$	$\left\{ x : x \neq \pi + \pi n \right\}$	$(-\infty, \infty)$
$y = 3 \cot \left(\frac{x}{2} + \frac{\pi}{2} \right)$	N/A	$\frac{\pi}{\frac{1}{2}} = 2\pi$	$\frac{-\frac{\pi}{2}}{\frac{1}{2}} = -\pi$	$\left\{ x : x \neq 2\pi n - \pi \right\}$	$(-\infty, \infty)$

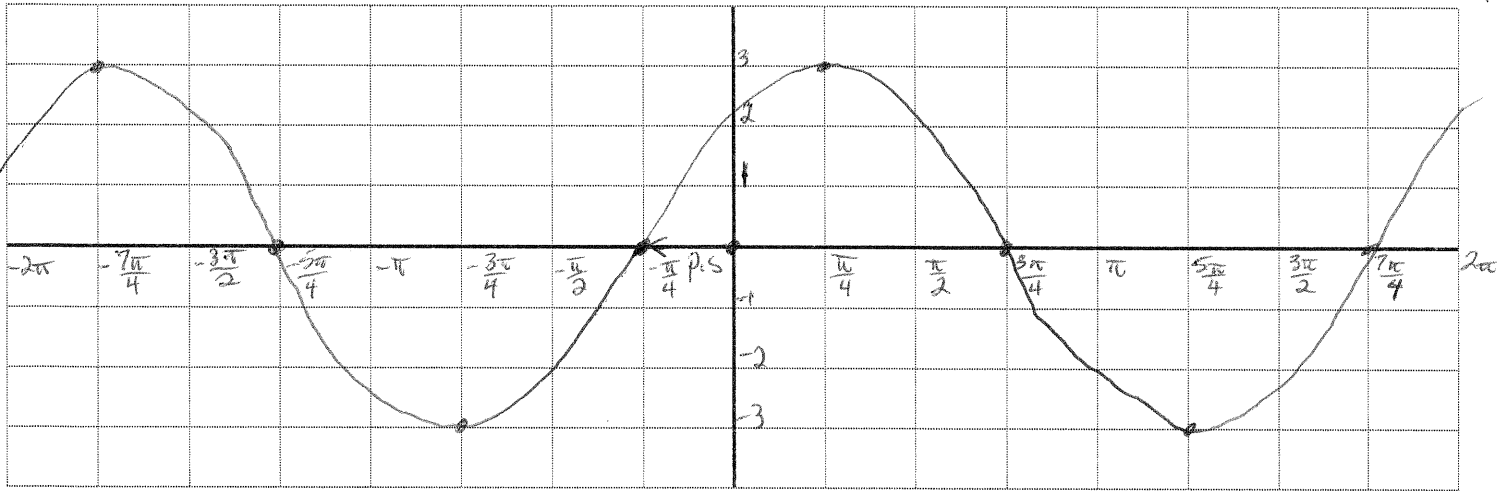
Graph at least two periods of the following functions. Include all "interesting" points and asymptotes.

$f(x) = -2 \cos(4x - \pi)$ amp: 2 peri: $\frac{2\pi}{4} = \frac{\pi}{2}$ p.s.: $\frac{\pi}{4}$



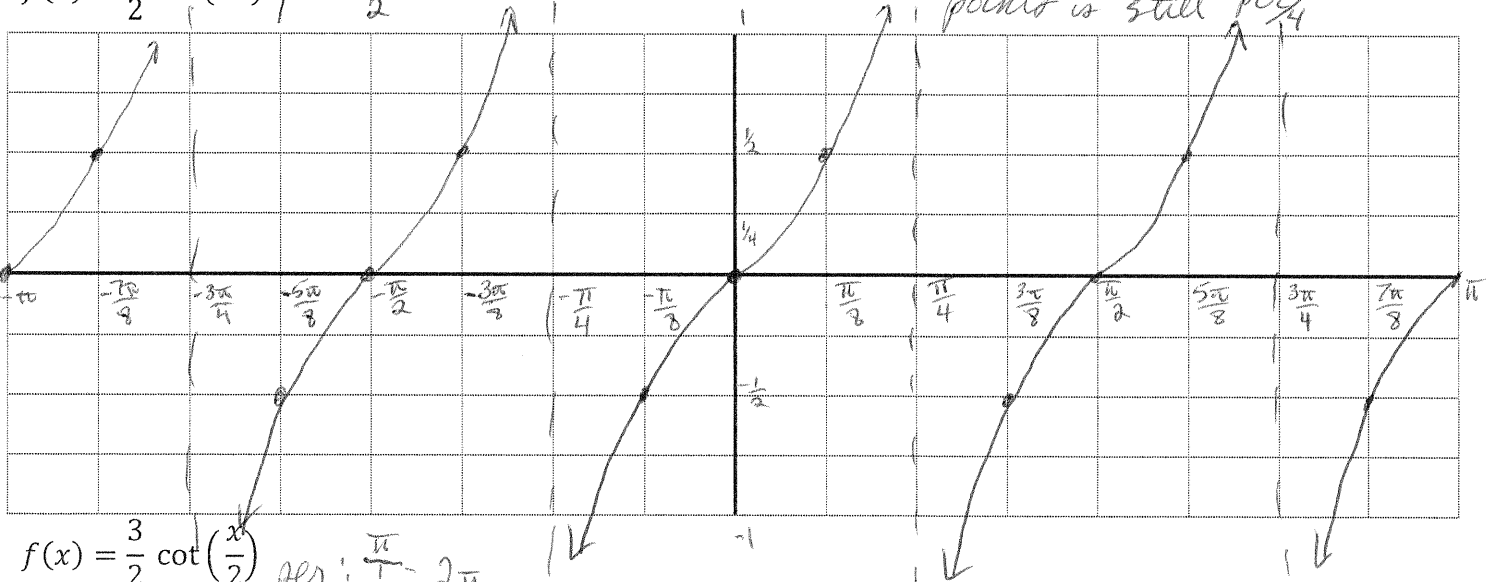
$$f(x) = 3 \sin\left(x + \frac{\pi}{4}\right) \quad \text{amp: } 3 \quad \text{per: } 2\pi \quad \text{p.s.: } -\frac{\pi}{4}$$

Notice: If I divide the period by 4 I will miss the phase shift so I scale by $\frac{\pi}{4}$ instead of $\frac{2\pi}{4}$.



$$f(x) = \frac{1}{2} \tan(2x) \quad \text{per: } \frac{\pi}{2}$$

Notice: The space between important points is still $\frac{\pi}{4}$



$$f(x) = \frac{3}{2} \cot\left(\frac{x}{2}\right) \quad \text{per: } \frac{\pi}{\frac{1}{2}} = 2\pi$$

