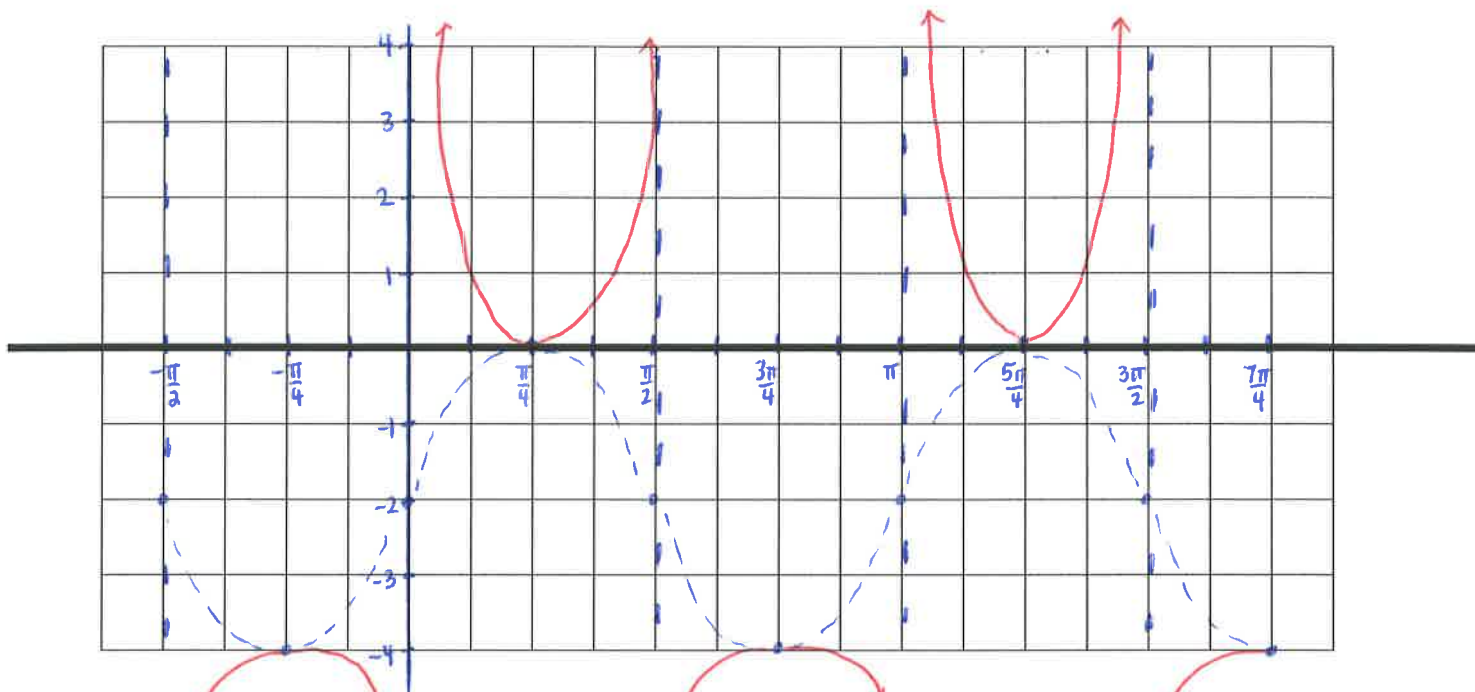


1. $y = 2 \sec\left(2x - \frac{\pi}{2}\right) - 2$ $y = 2 \cos\left(2x - \frac{\pi}{2}\right) - 2$



$$2x - \frac{\pi}{2} = 0$$

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

$$x = \frac{\pi}{4}$$

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

$$2x = \frac{3\pi}{2}$$

$$x = \frac{3\pi}{4}$$

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

$$2x = \frac{3\pi}{2}$$

$$x = \frac{3\pi}{4}$$

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

$$2x = 2\pi$$

$$x = \pi$$

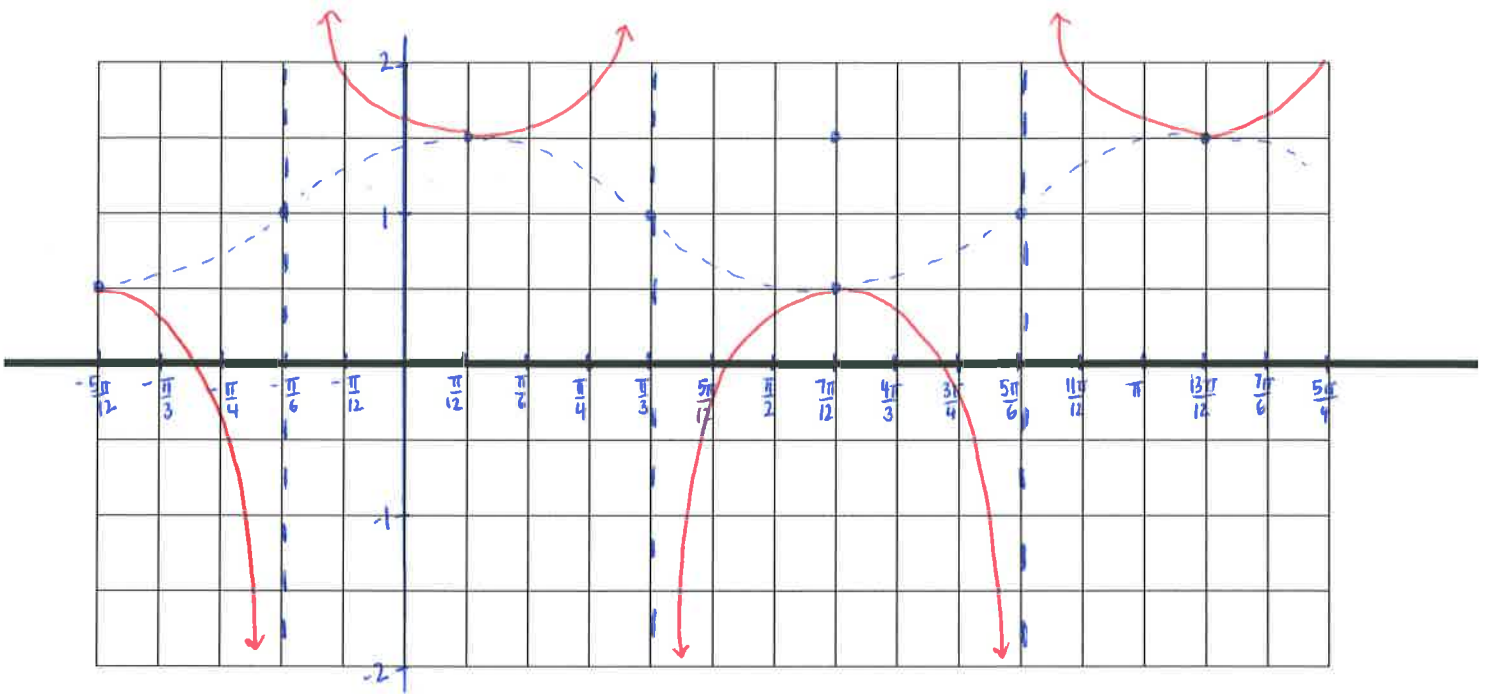
$$2x - \frac{\pi}{2} = \frac{5\pi}{2}$$

$$2x = \frac{5\pi}{2}$$

$$x = \frac{5\pi}{4}$$

ncw x	x-axis	y-axis	2y	-2
$\pi/4$	0	1	2	0
$\pi/2$	$\pi/2$	0	0	-2 ← asymptote
$3\pi/4$	π	-1	-2	-4
π	$3\pi/2$	0	0	-2 ← asymptote
$5\pi/4$	2π	1	2	0

$$2. y = 1 + \frac{1}{2} \csc\left(2x + \frac{\pi}{3}\right) \quad y = 1 + \frac{1}{2} \sin\left(2x + \frac{\pi}{3}\right)$$



$$2x + \frac{\pi}{3} = 0$$

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

$$x = -\frac{\pi}{6}$$

$$2x + \frac{\pi}{3} = \frac{\pi}{2}$$

$$2x = \frac{\pi}{6}$$

$$x = \frac{\pi}{12}$$

$$2x + \frac{\pi}{3} = \pi$$

$$2x = \frac{2\pi}{3}$$

$$x = \frac{2\pi}{6} = \frac{\pi}{3}$$

$$2x + \frac{\pi}{3} = \frac{3\pi}{2}$$

$$2x = \frac{7\pi}{6}$$

$$x = \frac{7\pi}{12}$$

$$2x + \frac{\pi}{3} = 2\pi$$

$$2x = \frac{5\pi}{3}$$

$$x = \frac{5\pi}{6}$$

new x	x-axis	y-axis	1/2 y	+1
$-\pi/6$	0	0	0	1 ← asymptote
$\pi/12$	$\pi/2$	1	0.5	1.5
$\pi/3$	π	0	0	1 ← asymptote
$7\pi/12$	$3\pi/2$	-1	-0.5	0.5
$5\pi/6$	2π	0	0	1 ← asymptote

$$\frac{3\pi}{12} = \frac{\pi}{4}$$

$$\frac{4\pi}{12} = \frac{\pi}{3}$$

$$\frac{8\pi}{12} =$$

$$\frac{9\pi}{12} = \frac{3\pi}{4}$$

$$\frac{10\pi}{12} = \frac{5\pi}{6}$$

$$\frac{14\pi}{12} = \frac{7\pi}{6}$$

$$\frac{15\pi}{12} = \frac{5\pi}{4}$$