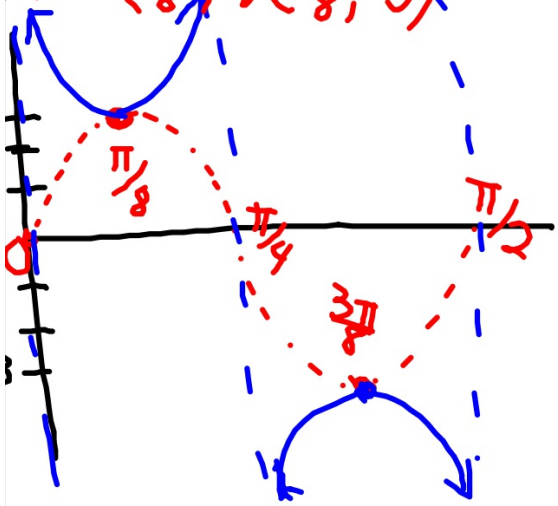
Pg 339 # 14, 16, 20, 26–30

(14) $y = 3\csc 4\theta$

Amp: 3 Chgs: none

Pd: $\pi/2$ Asm: $0, \pi/4, \pi/2$

Pts: $(\frac{\pi}{8}, 3)(\frac{3\pi}{8}, -3)$

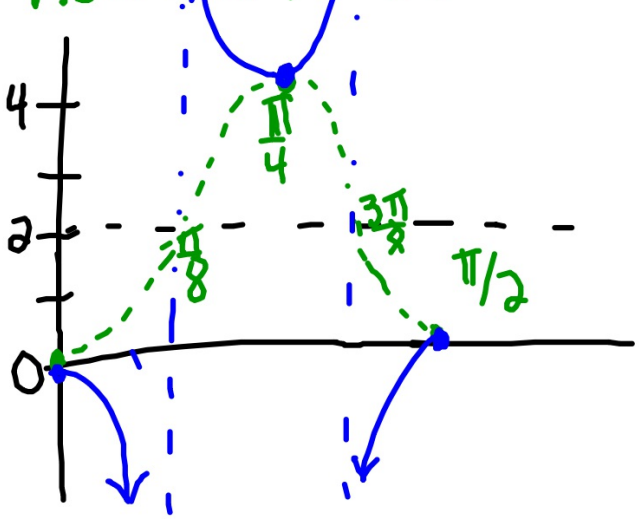


(16) $y = -2\sec 4\theta + 2$

Amp: 2 Chgs: Refl. x axis
U 2

Pd: $\pi/2$ Asm: $\pi/8, 3\pi/8$

Pts: $(0,0)(\frac{\pi}{4}, 4)(\frac{\pi}{2}, 0)$

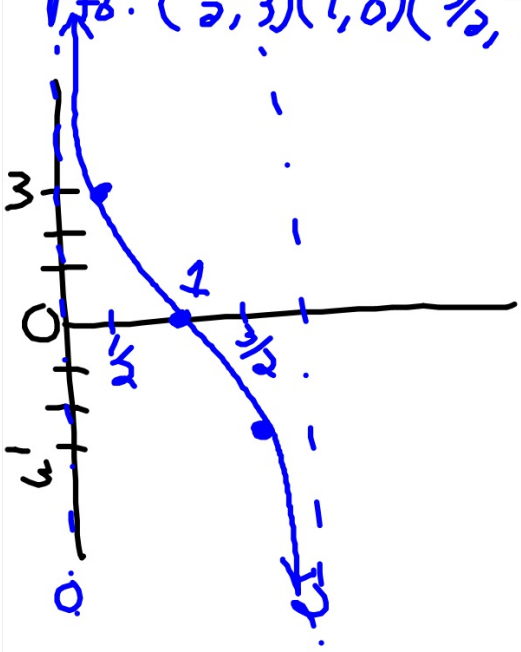


(20) $y = 3\cot\frac{\pi}{2}\theta$

Amp: none Chgs: vert. stretch

Pd: 2 Asm: 0, 2

Pts: $(\frac{1}{2}, 3)(1, 0)(\frac{3}{2}, -3)$

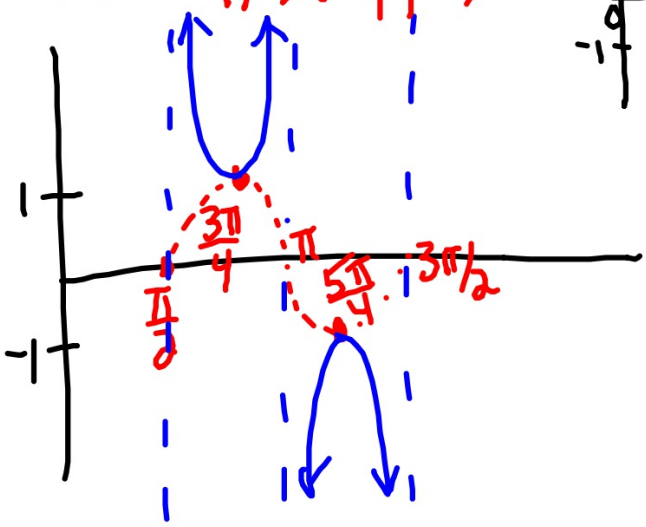


(26) $y = \csc(2\theta - \pi)$ $\quad 2(\theta - \pi/2)$

Amp: 1 Chgs: R $\pi/2$

Pd: π Asm: $\frac{\pi}{2}, \pi, \frac{3\pi}{2}$

Pts: $(\frac{3\pi}{4}, 1)(\frac{5\pi}{4}, -1)$



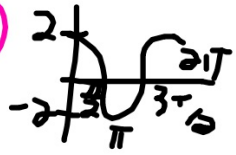
(27) $y = 2\sec(\theta + \pi)$

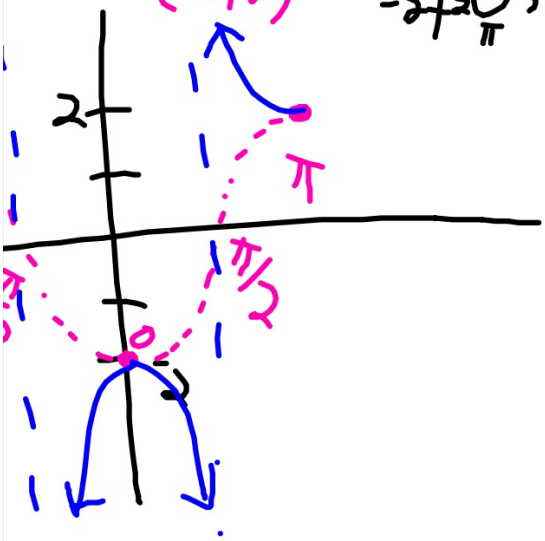
Amp: 2 Chgs: L π

Pd: 2π Asm: $-\frac{\pi}{2}, \pi/2$

Pts: $(-\pi, 2)(0, -2)$

$(-\pi, 2)$





(28) $y = -\sec \pi\theta + 1$

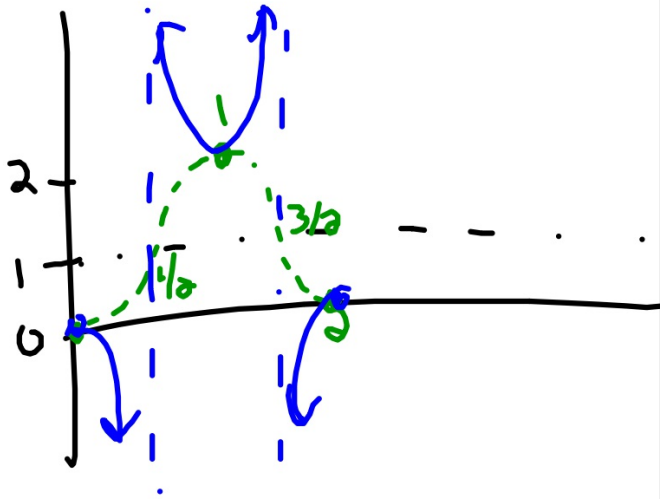
Amp: 1 Chgs: Refl. x-axis

U 1

Pd: 2

Asm: $\frac{1}{2}, 3/2$

Pts: $(0,0)(1,2)(2,0)$

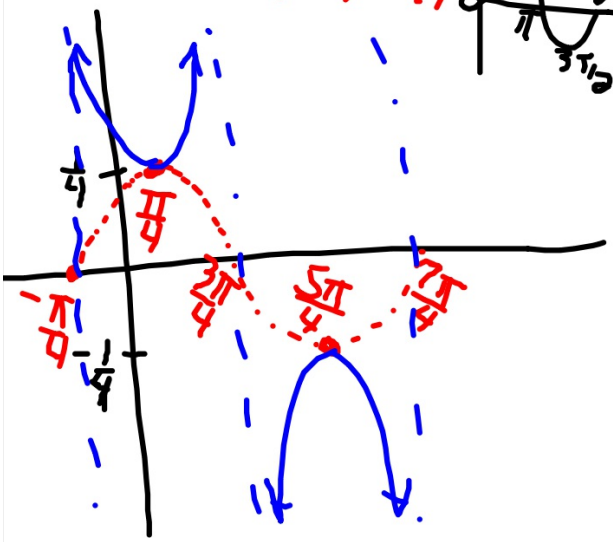


(29) $y = \frac{1}{4}\csc(\theta + \pi/4)$

Amp: $\frac{1}{4}$ Chgs: $\angle\ \pi/4$

Pd: 2π Asm: $-\frac{\pi}{4}, \frac{3\pi}{4}, \frac{7\pi}{4}$

Pts: $(\frac{\pi}{4}, \frac{1}{4})(\frac{5\pi}{4}, -\frac{1}{4})$

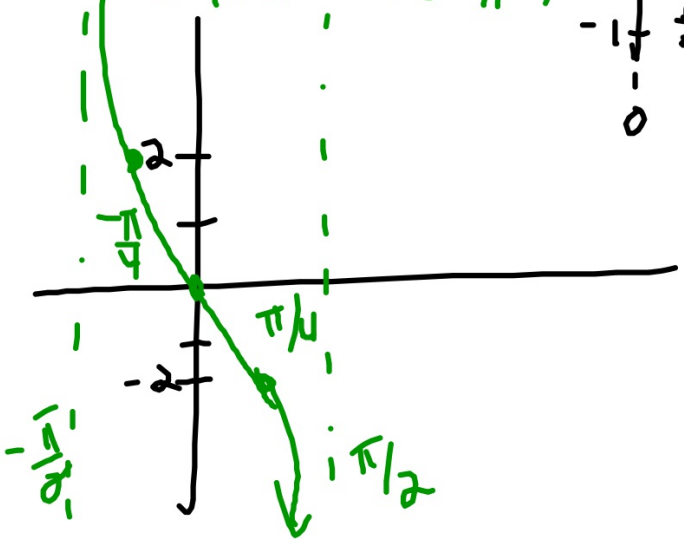


(30) $y = 2\cot(\theta + \pi/2)$

Amp: none Chgs: Vert. stretch

$\angle\ \pi/2$

Pd: π

Asm: $-\frac{\pi}{2}, \pi/2$

Pts: $(-\frac{\pi}{4}, 2)(0, 0)(\pi/4, -2)$