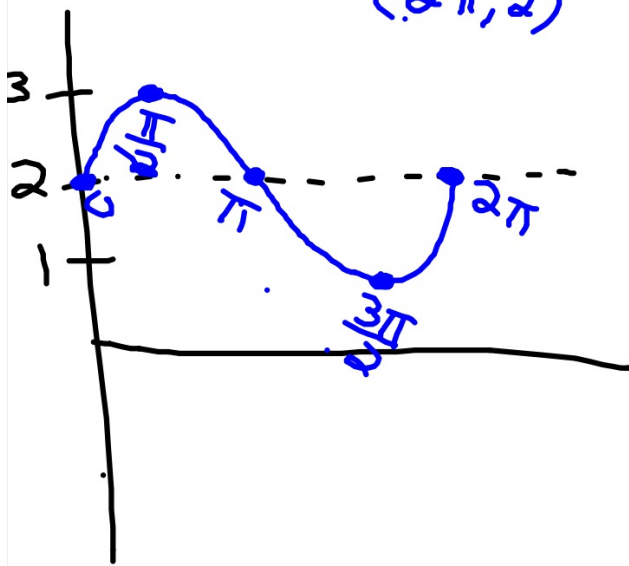


$$① y = 2 + \sin \theta$$

Amp: 1 Chgs: U2

Pd: 2π Asm: none

KP: $(0, 2)$ $(\frac{\pi}{2}, 3)$ $(\pi, 2)$ $(\frac{3\pi}{2}, 1)$
 $(2\pi, 2)$

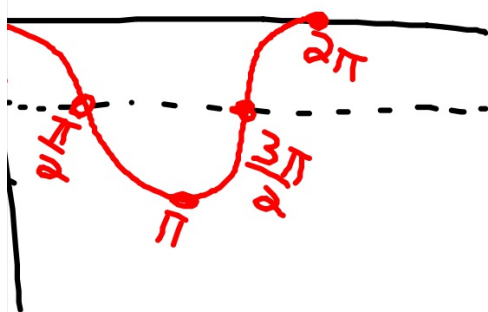


$$2) y = \cos \theta - 1$$

Period: 2π C.hgs: D1

Amp: 1 Asm: —

K.P.: $(0, 0)$ $(\frac{\pi}{2}, -1)$ $(\pi, -2)$
 $(\frac{3\pi}{2}, -1)$ $(2\pi, 0)$



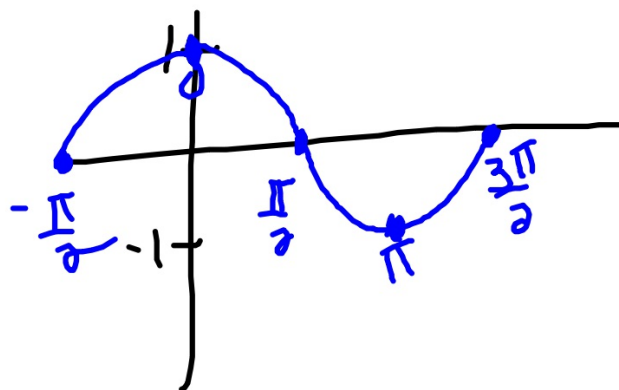
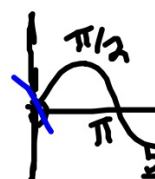
$$③ y = \sin(\theta + 90^\circ)$$

$$y = \sin(\theta + \frac{\pi}{2})$$

Period: 2π C.hgs: $L \frac{\pi}{2}$

Amp: 1 Asm: —

K.P.: $(-\frac{\pi}{2}, 0)$ $(0, 1)$ $(\frac{\pi}{2}, 0)$ $(\pi, -1)$ $(\frac{3\pi}{2}, 0)$



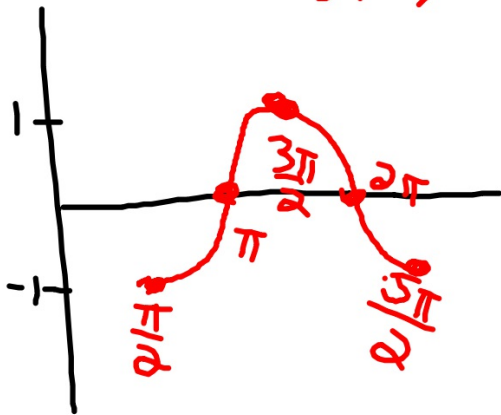
$$y = -\cos(\theta - \pi/2)$$

$$\textcircled{5} y = \tan(\theta - \pi/4)$$

Pd: 2π Chgs: $R \pi/2$, Refl. x-axis

Amplitude: 1 Asym: —

P: $(\frac{\pi}{2}, -1)$ $(\pi, 0)$ $(\frac{3\pi}{2}, 1)$
 $(2\pi, 0)$ $(\frac{5\pi}{2}, -1)$



$$y = 2 \sin(2\theta + 90^\circ)$$

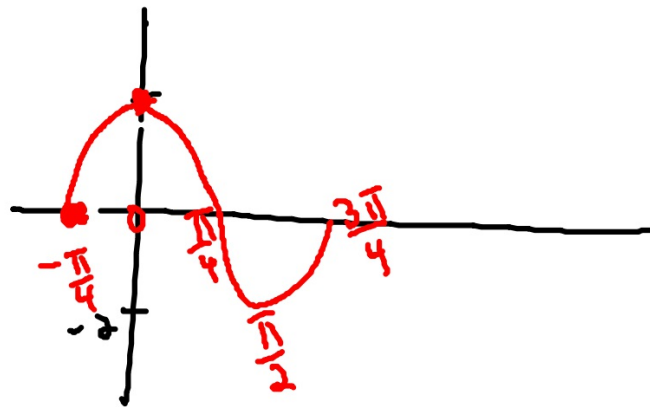
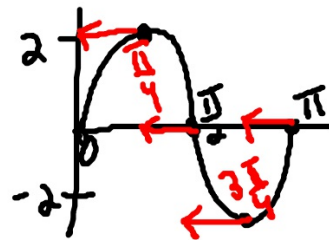
$$y = 2 \sin 2(\theta + 45^\circ)$$

Amp: 2

Ph: π

Chgs: $L \pi/4$

Asm: none



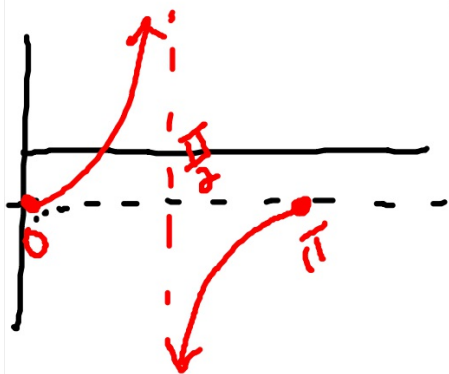
$$y = -1 + \tan \theta$$

Amp: none

PD: π

Chgs: D1

Asm: $\frac{\pi}{2}$



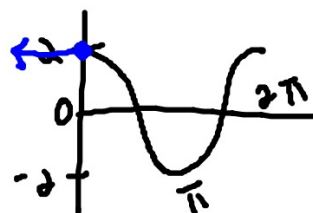
$$(9) y = 2 \cos(\theta + 45^\circ)$$

Amp: 2

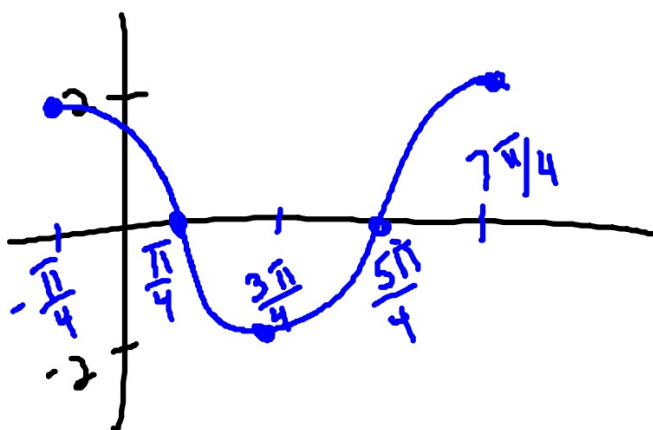
PD: 2π

Chgs: $L \pi/4$

Asm: none



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



$$y = -3 \cos(\theta + 90^\circ)$$

Amp: 3

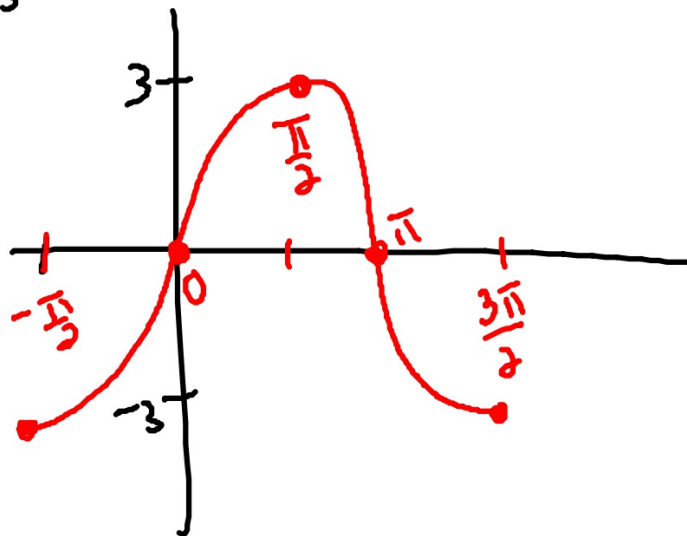
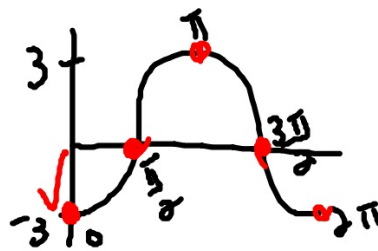
Per: 2π

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

Chgs: Refl. x-axis

$L^{\pi/2}$

Asym: none



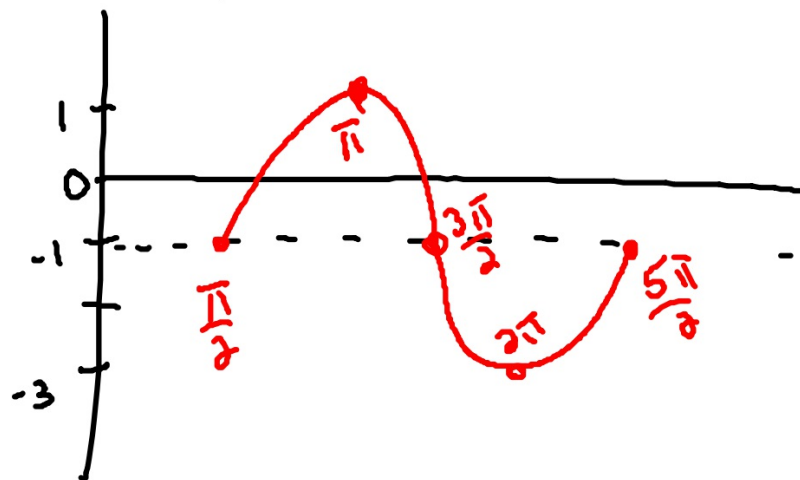
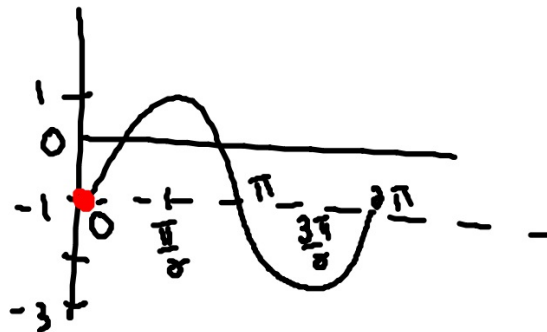
$$y = -1 + 2\sin(\theta - \pi/2)$$

Amp: 2

PD: 2π

hys: D1, $R\frac{\pi}{2}$

sm: none



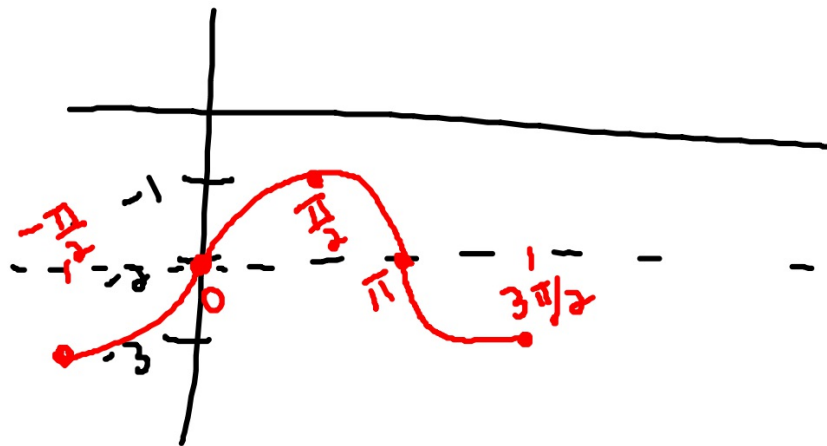
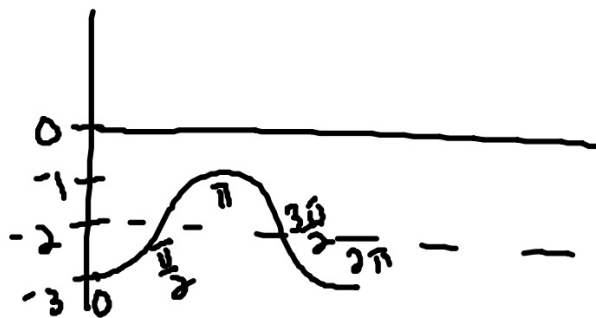
$$y = -2 - \cos\left(\theta + \frac{\pi}{2}\right)$$

Amp: 1

PD: 2π

Chgs: D2, $\frac{\pi}{2}$, Refl. x-axis

Asm: none



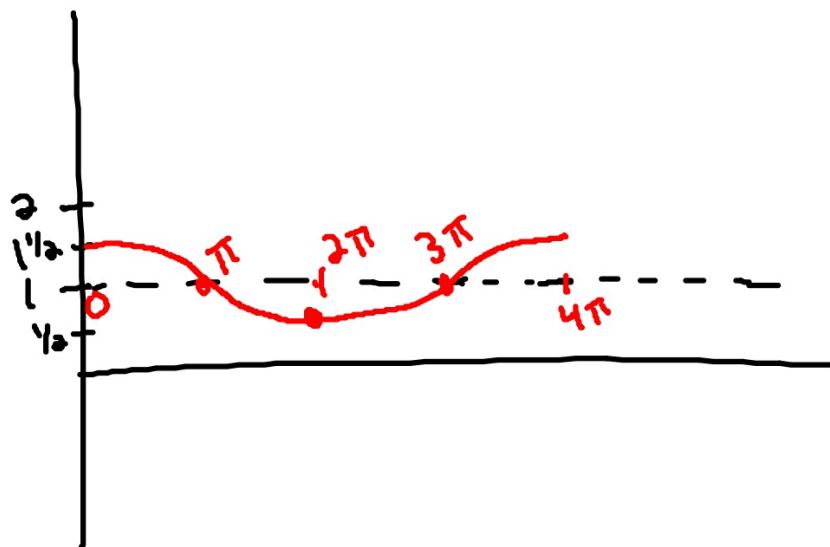
$$y = 1 + \frac{1}{2} \cos \frac{1}{2} \theta$$

^
Amp: $\frac{1}{2}$

Ps: 4π

/ Chgs: U1

/ Asm: none



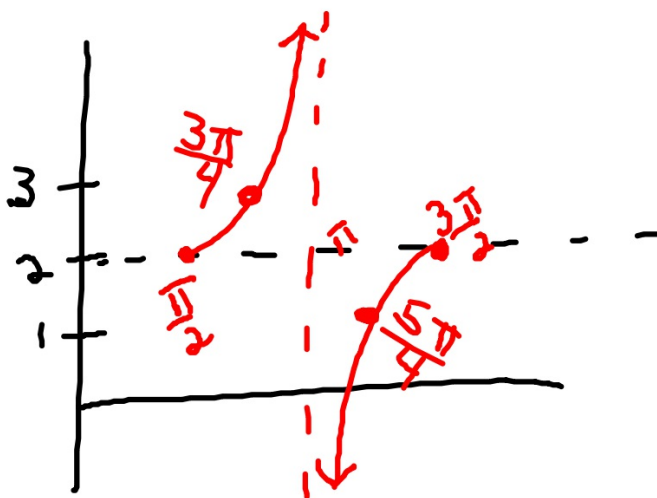
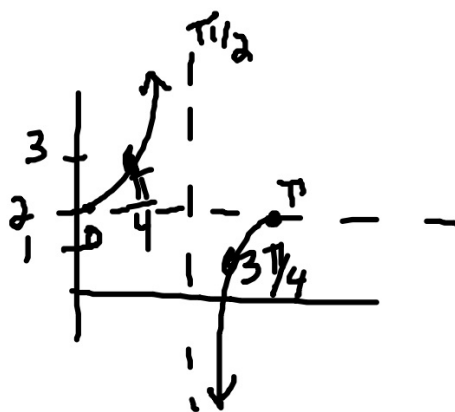
$$y = 2 + \tan(\theta - \pi/2)$$

Amp: none

pd: π

Chgb: $R^{\pi/2}, U2$

Asm: π



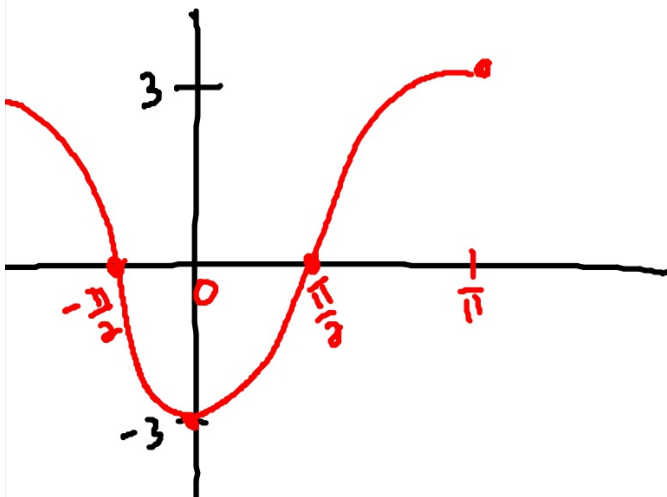
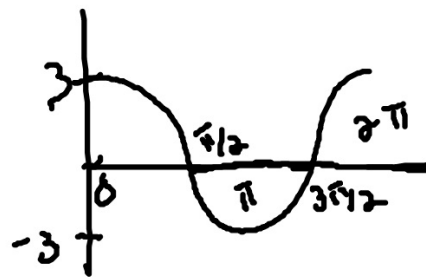
$$y = 3 \cos(\theta + \pi)$$

Amp: 3

PD: 2π

Chgs: $L\pi$

Asym: none



$$Y = -\frac{1}{2} \sin\left(\theta + \frac{\pi}{4}\right)$$

Amp: $\frac{1}{2}$

pd: 2π

Chgs: Refl. x-axis
L $\pi/4$

Asm: none

