Section 4.5

Sine and Cosine graphs

SIN graphs

1.) y = sin Θ

mp = 1

riod = 2π

(0,0)(π/2,1)

(π,0)(3π/2,-1)

(2π,0)

2.) y = 2 sin Θ

Amp = 2

pd = 2π

(0,0)(

(3π/2, -2

SIN graphs

3.) y = 3 sin Θ

: 3

2π

(0, 0) (π/2, 3) (π, 0)

(3π/2, -3) (2π, 0)

4.) y = ½ sin Θ

Amp = 1/2

Pd = 2π

(0,0) (π/2, 1/2

(3π/2, -1/2)

SIN graphs

5.) y = 1/3 sin Θ

$= \frac{1}{3}$

2π

$(0,0)\left(\frac{\pi}{2}, \frac{1}{3}\right)(\pi, 0)$

$\left(\frac{3\pi}{2}, -\frac{1}{3}\right)(2\pi, 0)$

6.) y = sin 2 Θ

Amp = 1

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

$(0,0)\left(\frac{\pi}{4}, 1\right)$

$\left(\frac{3\pi}{4},\right.$

SIN graphs

7.) y = sin 3 Θ

Amp: 1

Pd: $\frac{2\pi}{3}$

$(0,0)\left(\frac{\pi}{6},1\right)\left(\frac{\pi}{3},0\right)$

$\left(\frac{\pi}{2},-1\right)\left(\frac{2\pi}{3},0\right)$

8.) y = 5 sin ½ Θ

Amp = 1

Pd: $\frac{2\pi}{\frac{1}{2}} = 4\pi$

$(0,0)(\pi$

$(3\pi,$

SIN graphs

9.) y = -sin Θ

: 1

2 π

t. x-axis

(0,0) (π/2, -1) (π, 0)

(3π/2, 1) (2π, 0)

10.) y = -2 sin 3 Θ

Amp = 2

Pd = 2π/3

Refl. x-axis

(0,0) (π/6, -2)

(π/2, 2

COS graphs

1.) y = cosΘ

$\varphi = 1$

$= 2\pi$

$(0,1)\ (\frac{\pi}{2},0)\ (\pi,-1)$

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

2.) y = cos 2 Θ

Amp: 1

$PS = \pi$

$(0,1)\ (\frac{\pi}{4},$

$(\frac{3\pi}{4},0)$

COS graphs

3.) $y = \cos \frac{1}{2}\Theta$

$= 1$

$= 4\pi$

$(0,1)(\pi,0)(2\pi,-1)$
$(3\pi,0)(4\pi,1)$

4.) $y = 3\cos \frac{1}{2}\Theta$

$Amp = 3$
$Pd = 4\pi$

$(0,3)(\pi,0)$
$(3\pi,0)$

Classwork

- Wkst 4.5 # 1-10
- pick from # 11-20

  13, 15, 16, 17

Homework

- Pg 328 # 1-7, 9, 10, 12

) $y = 3\sin 2\theta$

Amp = 3

Pd = π

$(0,0)\left(\frac{\pi}{4},3\right)\left(\frac{\pi}{2},0\right)$

$\left(\frac{3\pi}{4},-3\right)(\pi,0)$

(15) $y = -2\cos\theta$

Amp : 2

Pd : 2π

Refl. x-axis

$(0,-2)\left(\frac{\pi}{2},0\right)$

$\left(\frac{3\pi}{2},0\right)($

$y = \frac{3}{2}\cos(3\theta)$

p : $\frac{3}{2}$

: $\frac{2\pi}{3}$

$(0, 3/2)\left(\frac{\pi}{6}, 0\right)\left(\frac{\pi}{3}, -3/2\right)$

$\left(\frac{\pi}{2}, 0\right)\left(\frac{2\pi}{3}, 3/2\right)$

(17) $y = \frac{1}{2}\sin\frac{1}{2}\theta$

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

Pd : 4π

$(0,0)\left(\pi, \frac{1}{2}\right)(2\pi, 0)(3\pi,$

$(4\pi, 0)$

328 # 1-14

graph # 7, 8, 11, 12