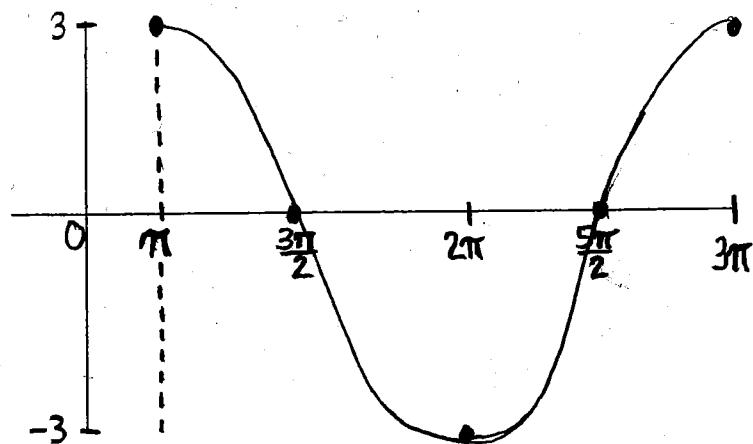


Algebra 2
Chapter 7 – More Review #1

NAME _____

Graph each trig function. (Label the angles!)

1) $y = 3\cos(\theta - \pi)$



Amp = 3

Period = 2π

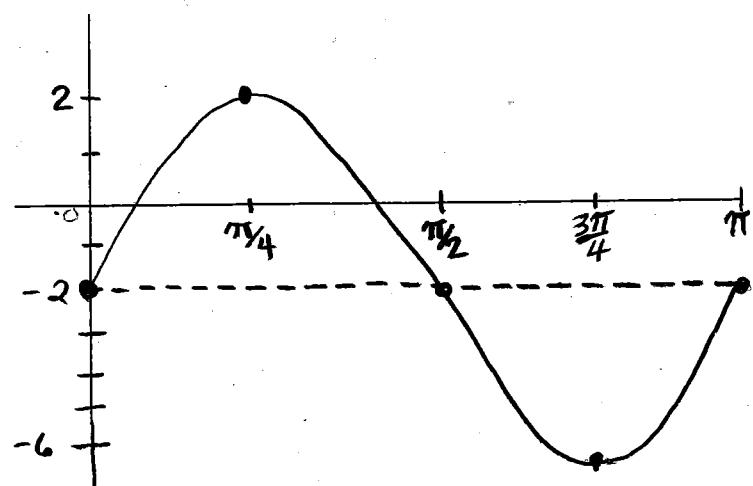
P.S. = π

V.S. = 0

Min = -3

Max = 3

2) $y = 4\sin(2\theta) - 2$



Amp = 4

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

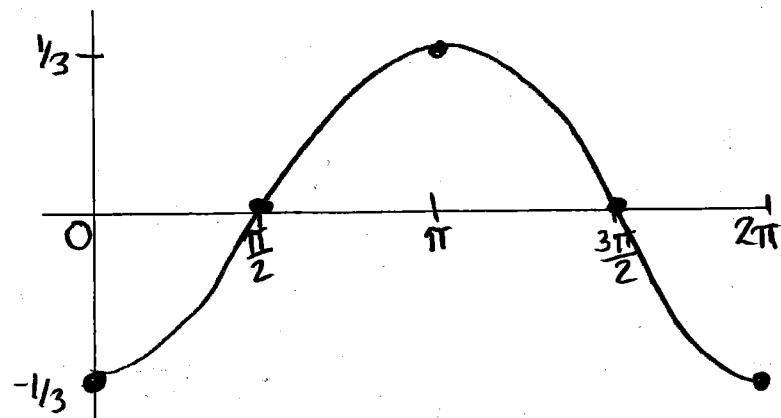
P.S. = 0

V.S. = -2

Min = -6

Max = 2

3) $y = -\frac{1}{3}\cos\theta$



Amp = $\frac{1}{3}$

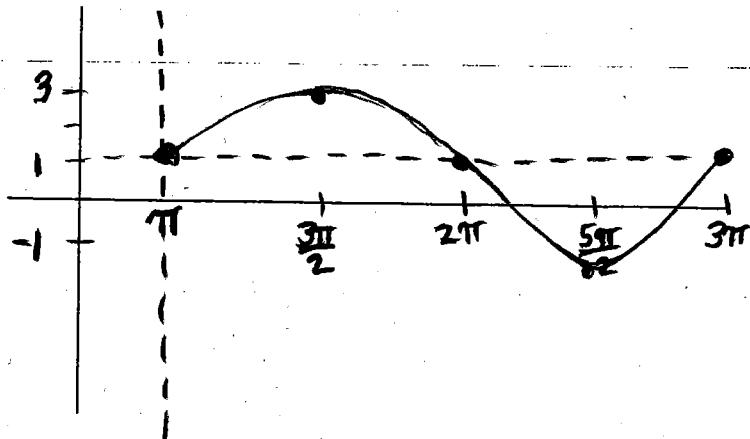
Period = 2π

P.S. = 0

V.S. = 0

~~REMOVED~~

4) $y = 2\sin\left(\frac{1}{3}\theta - \pi\right) + 1$ $y = 2\sin(\theta - \pi) + 1$



Amp = 2

Period = 2π

P.S. = π

V.S. = 1

- 5) Find the exact coordinates for a point on the unit circle for a 160° angle.

Exact: $(\cos 160^\circ, \sin 160^\circ)$

- 6) Solve each equation.

a) $\log_4(2x+3) = \frac{1}{2}$

$$\begin{aligned} 4^{\frac{1}{2}} &= 2x+3 \\ 2 &= 2x+3 \\ -1 &= 2x \end{aligned}$$

b) $\log_2(x) - \log_2(3) = 4$

$$\begin{aligned} \log_2\left(\frac{x}{3}\right) &= 4 \\ 2^4 &= \frac{x}{3} \\ 16 &= \frac{x}{3} \end{aligned}$$

$$3(16) = \left(\frac{x}{3}\right)^3$$

$$48 = x$$

c) $2\log_4(x) - \log_4(3) = 2$

$$\begin{aligned} \log_4(x^2) - \log_4(3) &= 2 \\ \log_4\left(\frac{x^2}{3}\right) &= 2 \\ 16 &= \frac{x^2}{3} \\ 4^2 &= \frac{x^2}{3} \end{aligned}$$

$$48 = x^2$$

$$6.928 \approx x$$

d) $\log_7(x+1) + \log_7(x-5) = 1$

$$\begin{aligned} \log_7(x^2 - 4x - 5) &= 1 \\ 7^1 &= x^2 - 4x - 5 \end{aligned}$$

$$x-6=0 \quad x+2=0$$

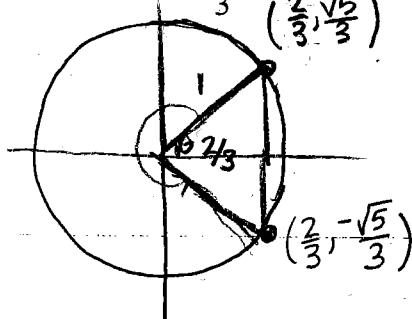
$$x=6 \quad x \neq -2$$

$$0 = x^2 - 4x - 12$$

$$0 = (x-6)(x+2)$$

- 7) Use the Pythagorean Identity to find the exact coordinates of a point on the unit circle that

has $\cos \theta = \frac{2}{3}$.



$$\left(\frac{2}{3}, \frac{\sqrt{5}}{3}\right)$$

$$\left(\frac{2}{3}\right)^2 + y^2 = 1$$

$$\frac{4}{9} + y^2 = 1$$

$$y^2 = \frac{5}{9}$$

$$y = \pm \frac{\sqrt{5}}{3}$$

$$\left(\frac{2}{3}, \pm \frac{\sqrt{5}}{3}\right)$$

- 8) Rewrite the equation below in graphing form and sketch its graph. Then state the domain and range and whether or not it is a function.

$$y = 4x^2 + 8x - 3$$

$$\begin{array}{r} +3 \\ +3 \\ \hline \end{array}$$

$$y + 3 = 4x^2 + 8x$$

$$y + 3 = 4(x^2 + 2x)$$

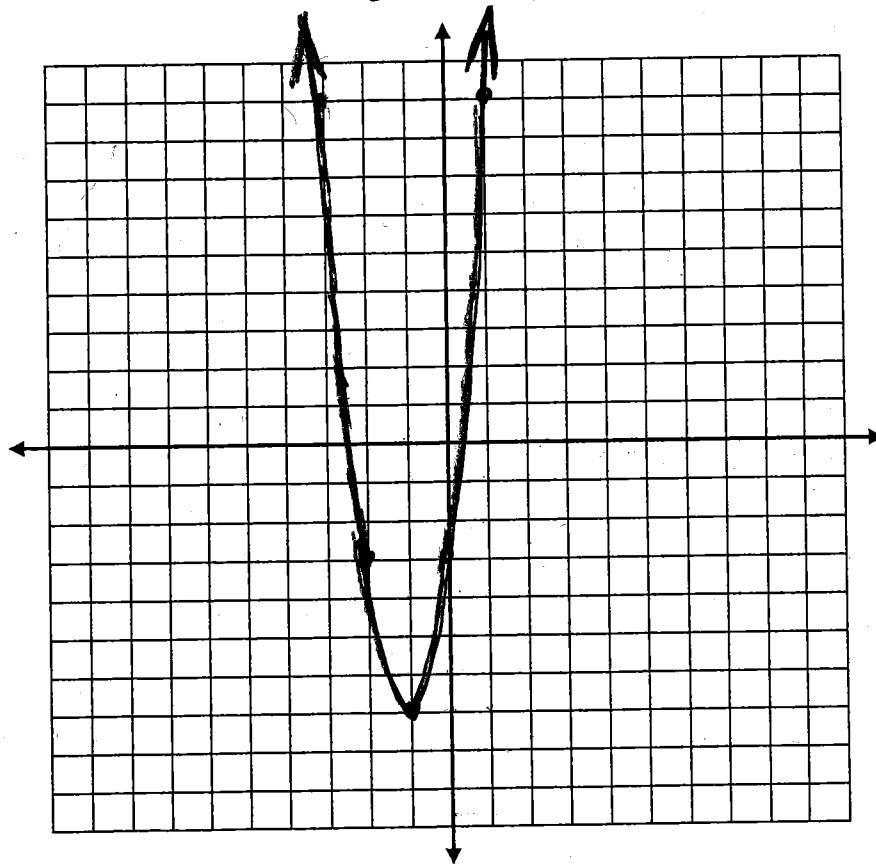
$$y + 3 + 4 = 4(x^2 + 2x + 1)$$

$$y + 7 = 4(x + 1)^2$$

$$y = 4(x + 1)^2 - 7$$

YES, THIS IS A FUNCTION B/C

FOR EACH INPUT THERE IS EXACTLY
ONE OUTPUT.



$$D: (-\infty, \infty)$$

$$R: [-7, \infty)$$