Name _____ Seat # _____ Date _____

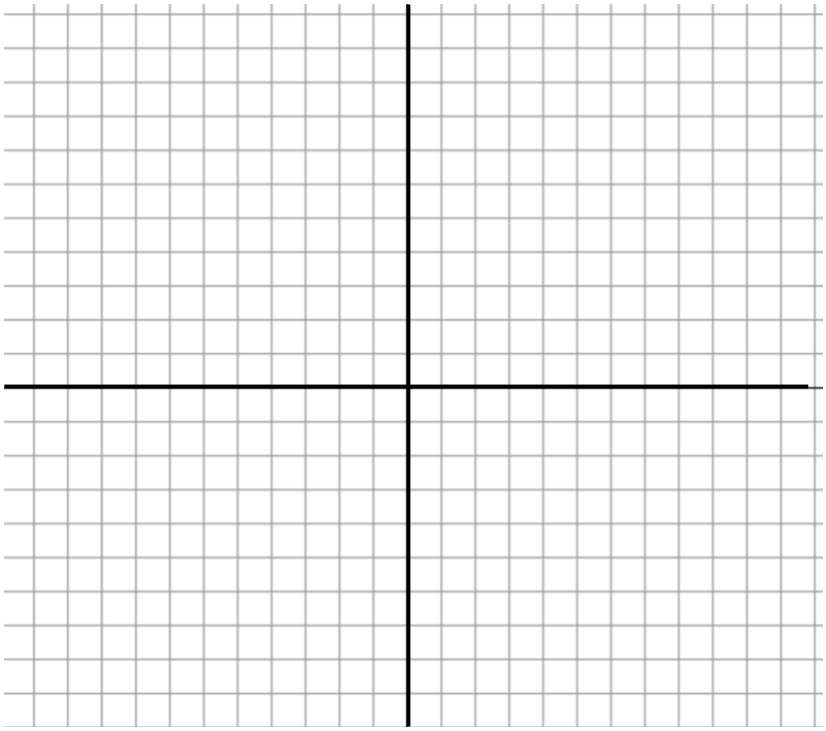
Pre-AP Calculus Education is Freedom

4.05 – Homework **Binder Section: HW**

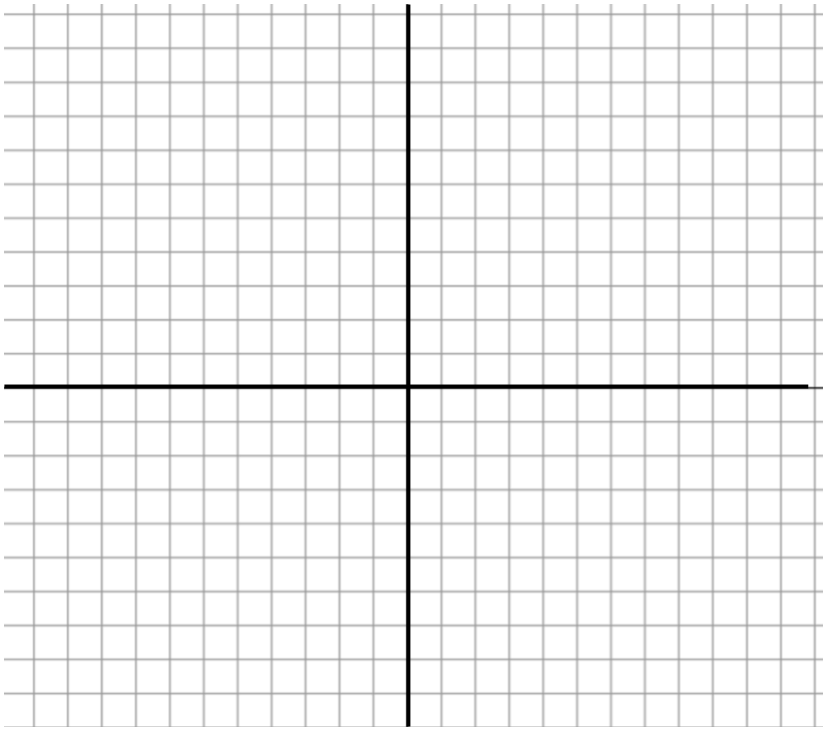
Part I: New Material – Graphing Sinusoids

A. Directions: Graph each sinusoid below using the method from class. Label the 5 key points, midline, amplitude, and period.

1. $f(x) = 5\sin\left(\frac{\pi}{4}x\right)$



2. $f(x) = 6\cos\left(\frac{\pi x}{8}\right) - 4$



3. Which function's graph has a period of 8 and reaches a maximum height of 1 if at least one full period is graphed?

(A) $y = -4\cos\left(\frac{\pi}{4}x\right) - 3$

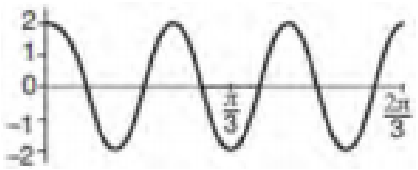
(B) $y = -4\cos\left(\frac{\pi}{4}x\right) + 5$

(C) $y = -4\cos(8x) - 3$

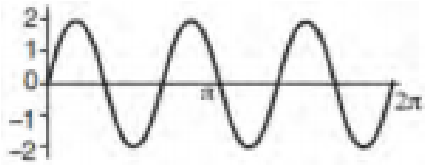
(D) $y = -4\cos(8x) + 5$

4. Which graph represents a cosine function with no horizontal shift, an amplitude of 2, and a period of $\frac{2\pi}{3}$?

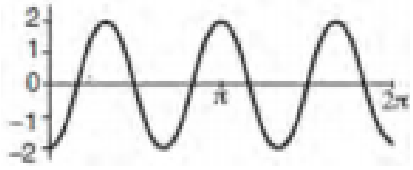
(A)



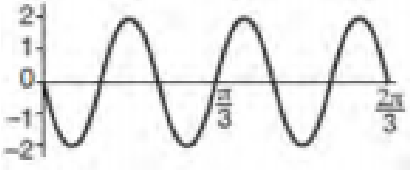
(B)



(C)



(D)



Part II: Spiral Material – keep the math fresh!

5. For $x \neq 0$, which expressions are equivalent to $\frac{1}{\sqrt[6]{x}}$?

I. $\frac{\sqrt[6]{x}}{\sqrt[3]{x}}$

II. $\frac{x^{1/6}}{x^{1/3}}$

III. $x^{-1/6}$

(A) I and II only

(B) I and III only

(C) II and III only

(D) I, II, and III