Honors PreCalc '15-16 Name_____
Chapter 2 Test--MC
Calculator NOT Allowed Score _____

1. Given $g(x)=3+2\sin\left[\frac{\pi}{4}(x+1)\right]$, which of the following statements is true?

The amplitude of $g(x)$ is 3.
The period of $g(x)$ is 8.
The phase shift is 1.

(a) I only (b) II only (c) III only

(d) II and III only (e) I, II and III

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2. On the graph of $y=-\cos x$, as x increases on $x\in\left[-\frac{\pi}{4},\frac{\pi}{4}\right]$, the function y

(a) decreases (b) is constant (c) increases

(d) decreases, then increases (e) increases, then decreases

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3. What is the smallest positive value where $y=3-2\cos\left[\frac{\pi}{8}(x-1)\right]$ has a point on the sinusoidal axis?

(a) 1 (b) 5 (c) 9 (d) 13 (e) 17

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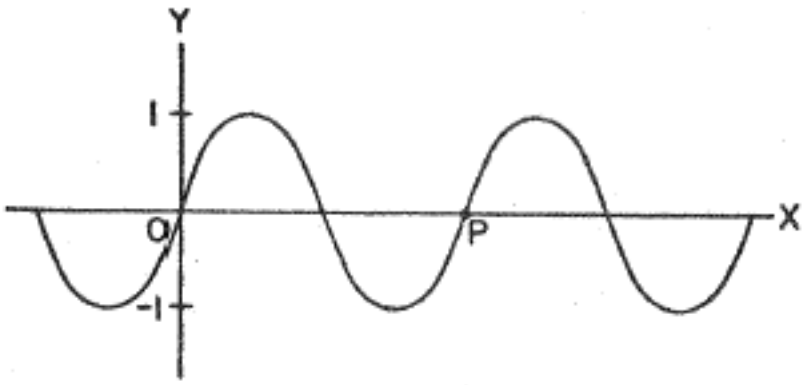
4. This is the graph of $y = \sin\left(\frac{2}{3}x\right)$.



What is the x-value of P?

(a) $\frac{\pi}{3}$ (b) $\frac{2\pi}{3}$ (c) 2π (d) 3π (e) 6π

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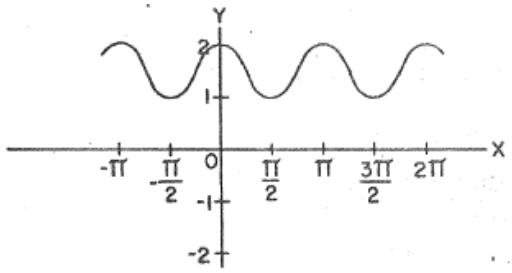
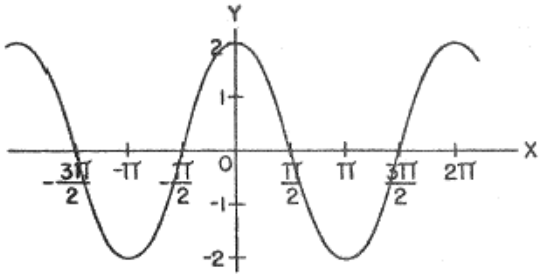
5. Which of the following is the graph of $y = 1 + \cos\left(x - \frac{\pi}{2}\right)$?

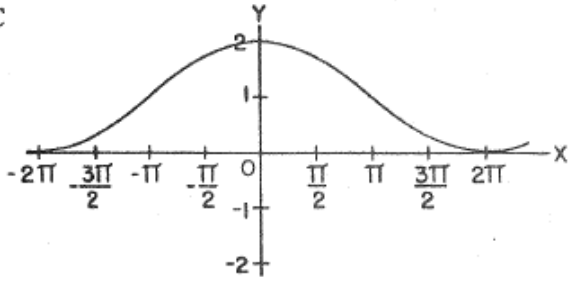
A



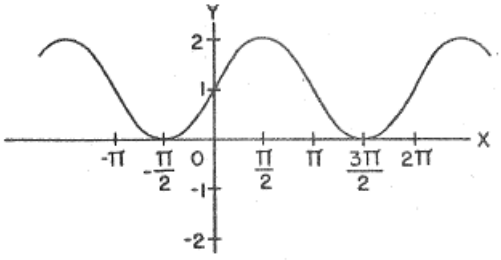
B



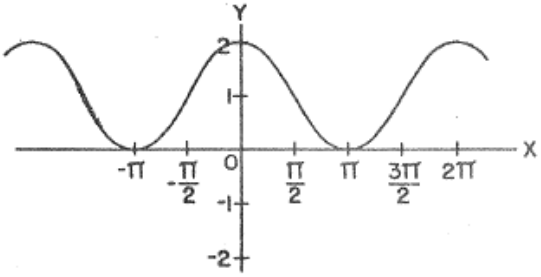
C



D



E



(a) A (b) B (c) C (d) D (e) E

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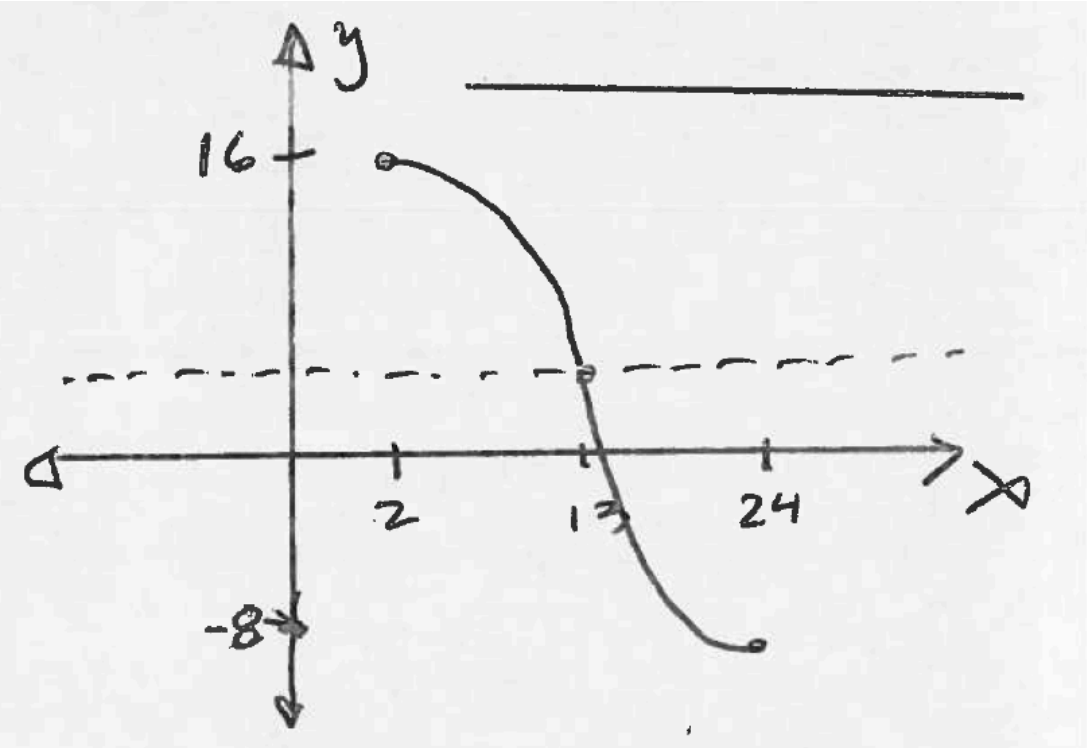
Chapter 2 Test--FR
Calculator required Score _____
Round all answers to 3 decimals

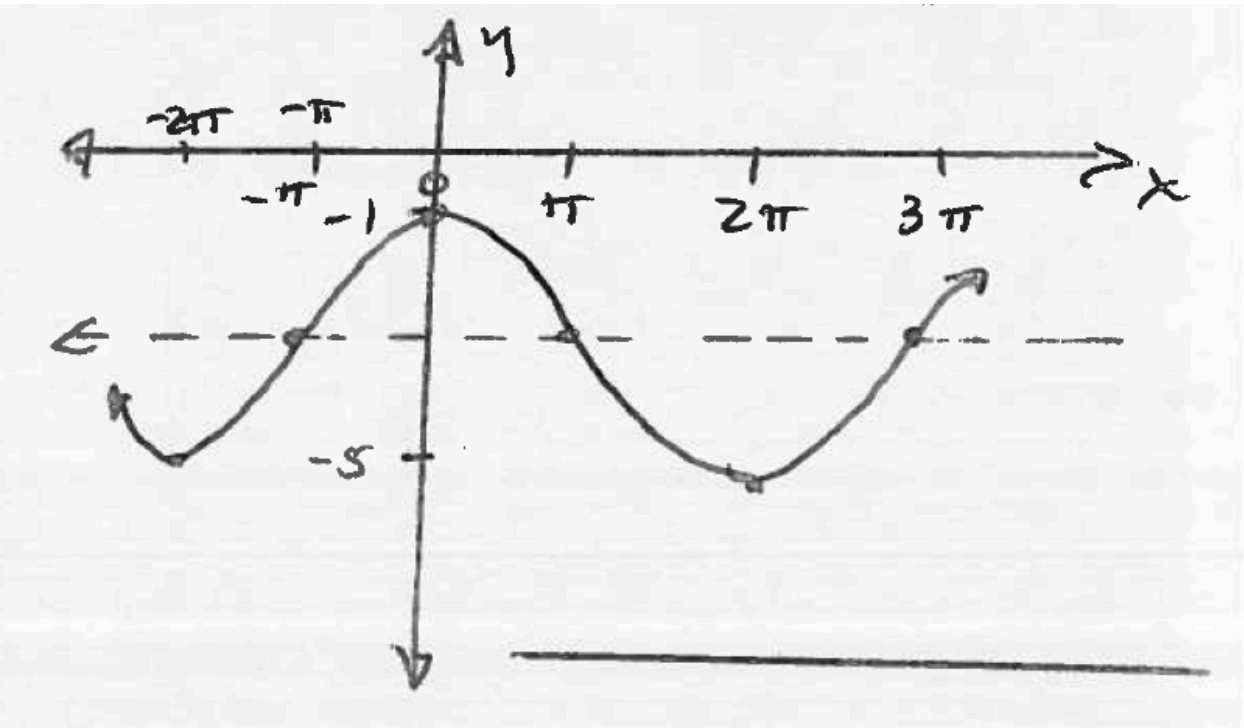
7. Sketch one cycle of $y = -1 + 5\cos\left[\frac{\pi}{8}(x-1)\right]$

8. Sketch one cycle of $y = 2 - 5\sin\left[\frac{1}{2}\left(x + \frac{\pi}{2}\right)\right]$

9. Find a cosine equation for this graph:



10. Find a sine equation for this graph:



11. If $H(x) = -1 + 4\cos\left[\frac{\pi}{3}(x-2)\right]$, find the first three negative values of x where $H(x) = 2.3$.

12. The price of gasoline over the past year seems to have varied with time. On June 10th (day 161), the cost was its highest, which was $3.97. On December 10th (day 344), the cost was its lowest, which was $2.97.

a. Sketch this curve over the course of this year.

b. Write an equation for this sinusoid.

c. According to this model, what was the price on August 12th (day 214).

d. When will the price of gas next rise above $3.10?