

SATPREP

Assignment : Graphs of Trig Functions

1) Explain in words the difference between each graph below and the graph of $y = \sin x$

a) $y = \sin x$

b) $y = \sin\left(x + \frac{\pi}{3}\right)$

c) $y = \sin x + 3$

d) $y = \sin(2x)$

e) $y = 2 \sin x$

2) Identify the amplitude, frequency, period, and phase shift of each function below.

a) $y = \cos(4x) + 1$

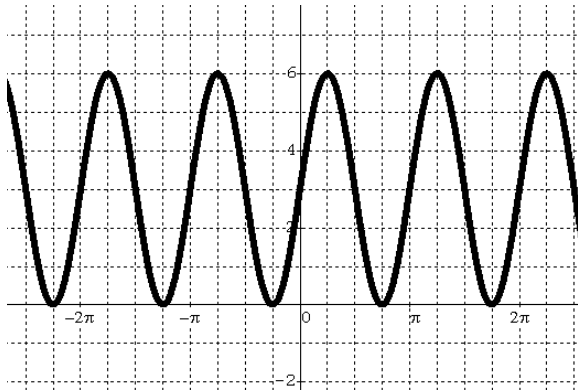
b) $y = -3 \cos \frac{1}{2}(x + \pi)$

c) $y = 2 \sin\left(\frac{\pi}{3}(x - 2)\right) - 4$

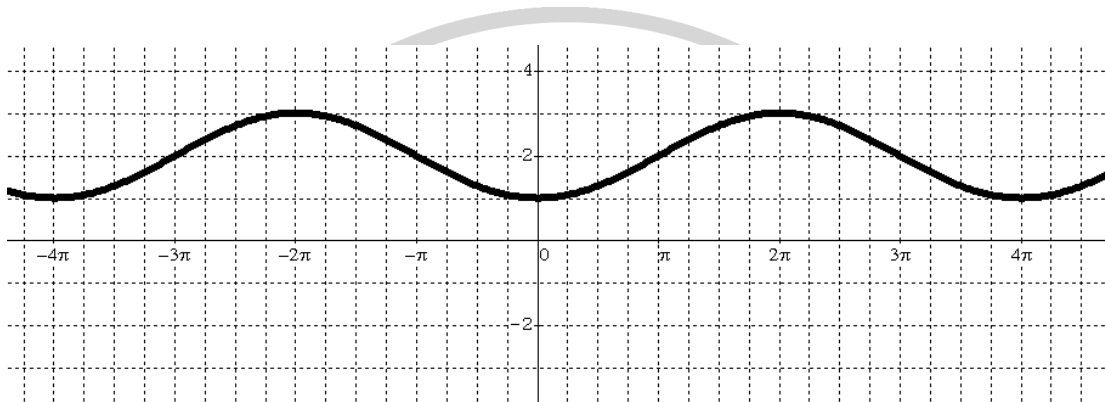
d) $y = -\frac{1}{2} \sin(3x - 12) + 9$

3) Write an equation that could produce the graphs below. (There is more than one possible equation.)

a)



b)



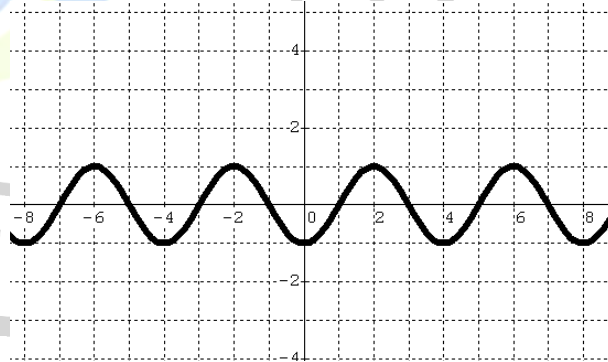
c) Multiple choice:

(1) $y = \cos(4x) + 1$

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

(3) $y = \sin\left(\frac{\pi}{2}x\right)$

(4) $y = -\sin\left(\frac{1}{2}x\right)$



d) Multiple choice:

(1) $y = \cot x$

(2) $y = \sec x$

(3) $y = \csc x$

(4) $y = \csc x + 1$

