King Fahd University of Petroleum and Minerals

Prep-Year Math Program

Math 002 - Term 142

Recitation (6.3 and 6.4)

Question 1: For the function $y=\frac{3}{2}\sin(2x)$

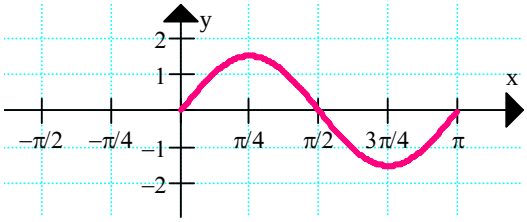
a) Find the amplitude and the period of the function.

b) Draw the graph over one complete period.

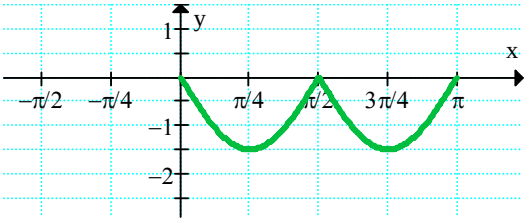
c) Draw $y=-\left|\frac{3}{2}\sin(2x)\right|$ over the interval $[0,\pi]$

Answer: (a): Amplitude $=\left|\frac{3}{2}\right|=\frac{3}{2}$ Period $=\frac{2\pi}{2}=\pi$

(b):



(c):



Question 2: The graph of the function $y=\frac{1}{2}\cos\frac{\pi}{2}x$ increases over the interval

A) $(2,\ 4)$

B) $(0,\ 2)$

C) $(3,\ 5)$

D) $(1,\ 3)$

E) $(2,\ 5)$

Answer: A

Question 3: Find the maximum value, the period, the amplitude and the phase shift of the function. $y=-2\sin\left(\pi x-\frac{\pi}{2}\right)+5$

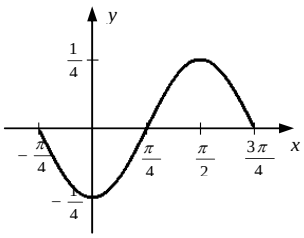
Answer: The maximum of is 7. The period is $P=2$. The amplitude is 2.

The phase shift is $x=\frac{1}{2}$ unit to the right.

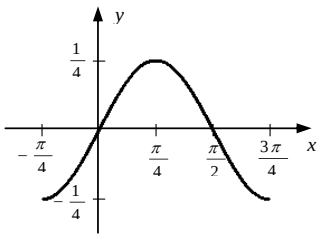
Question 4:

Which one of the following is the graph of $y=\frac{1}{4}\cos 2\left(x+\frac{\pi}{4}\right)$ over one period?

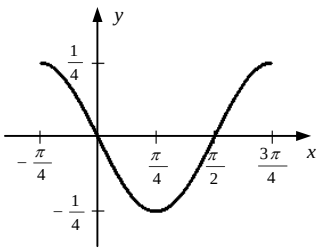
a)



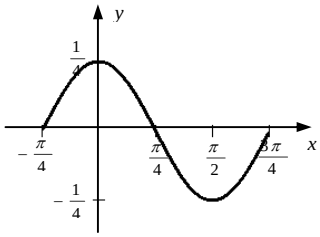
b)



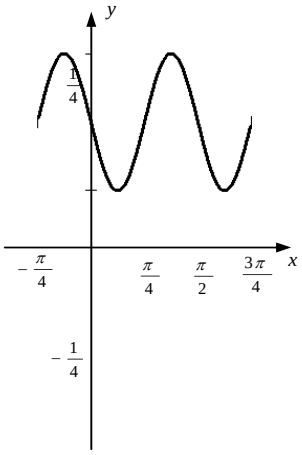
c)



d)



e)



Answer: (c)