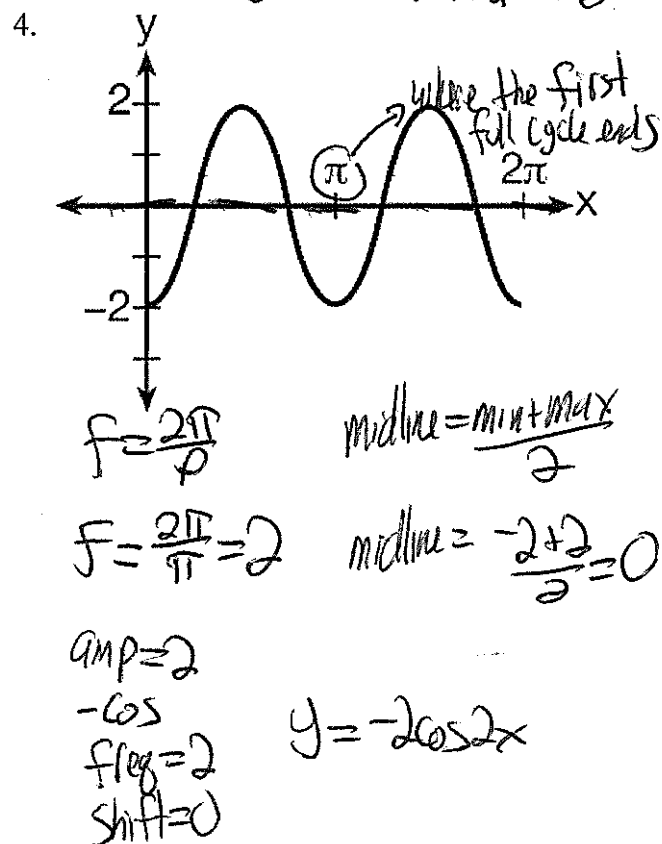
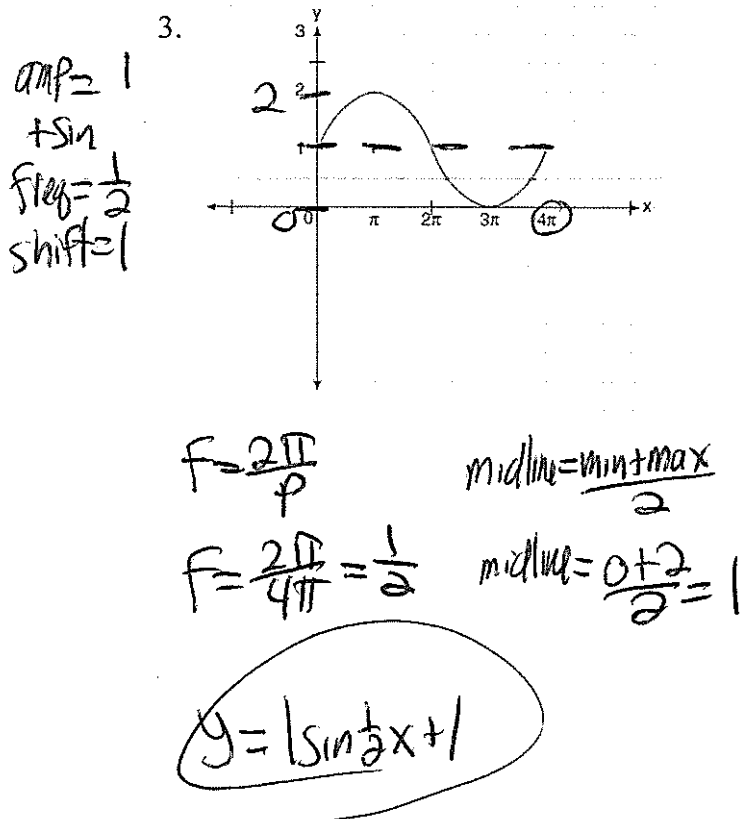
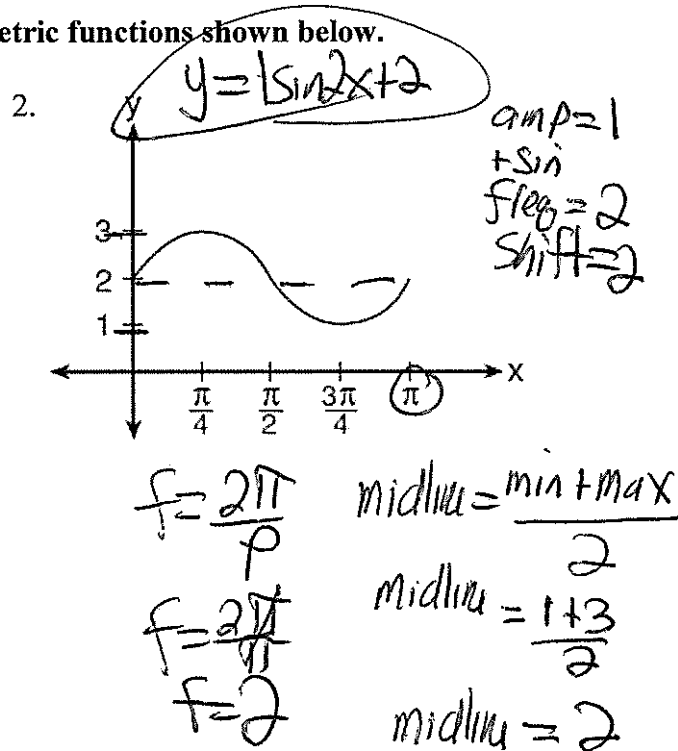
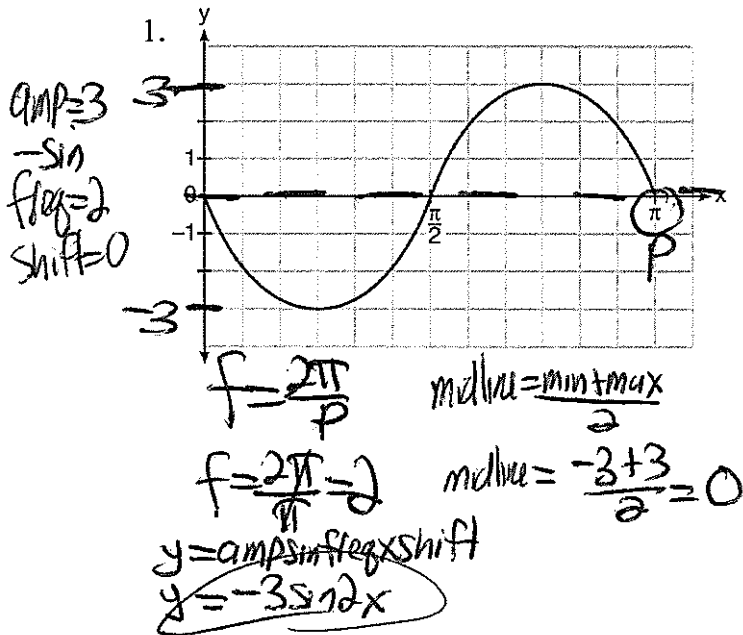
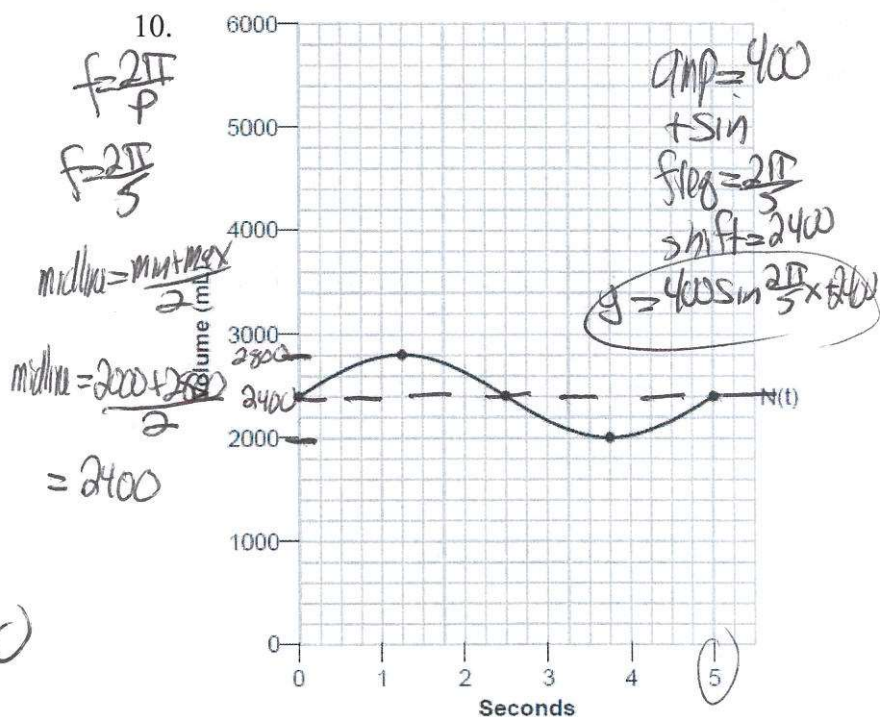
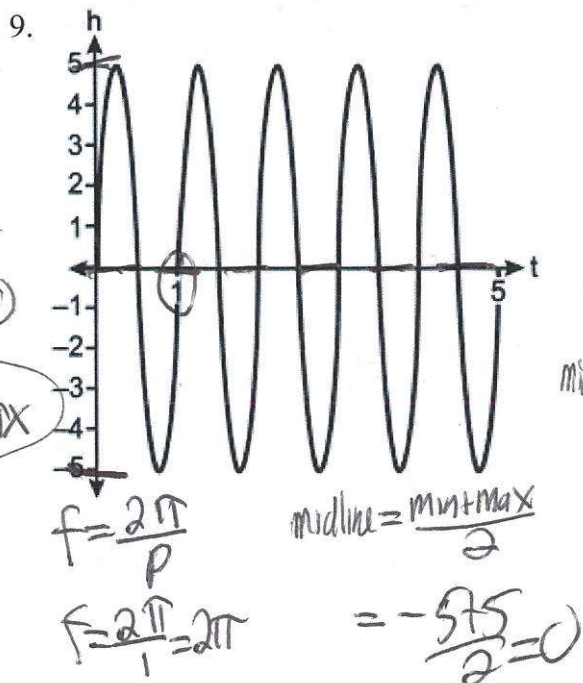
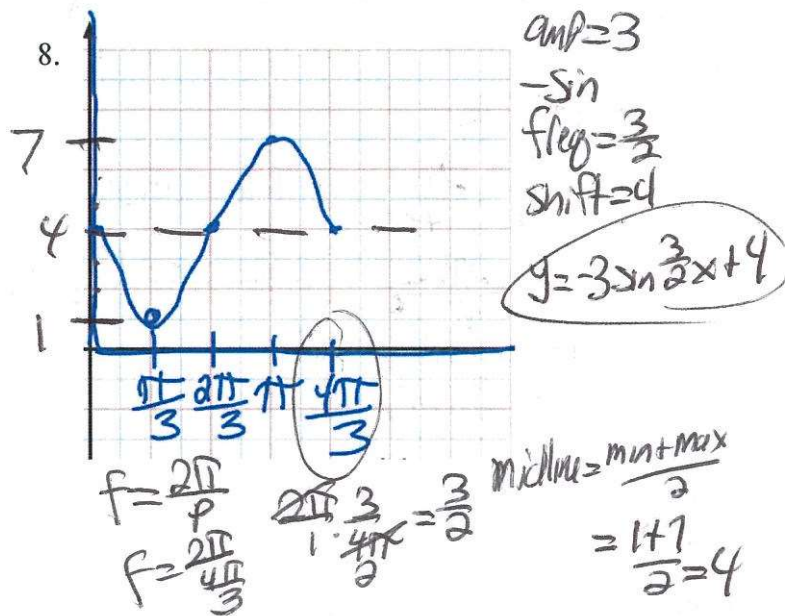
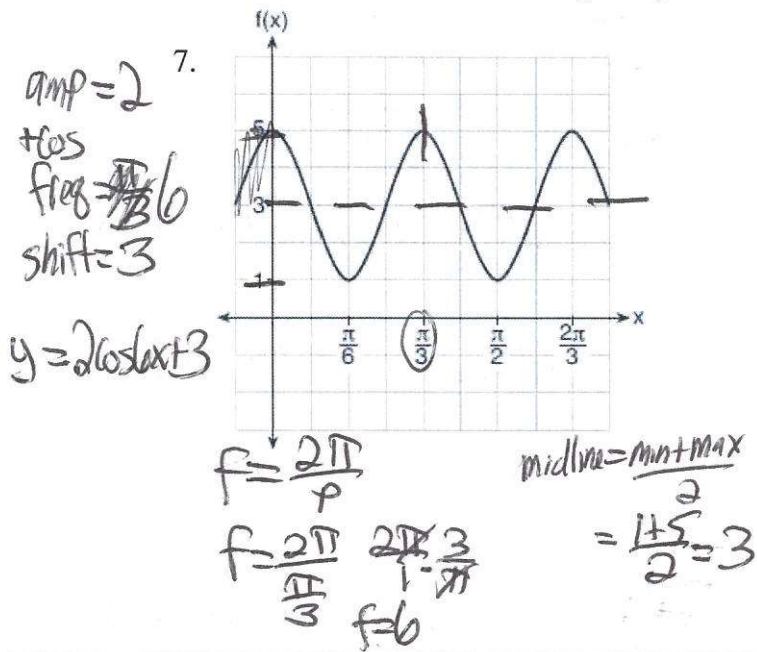
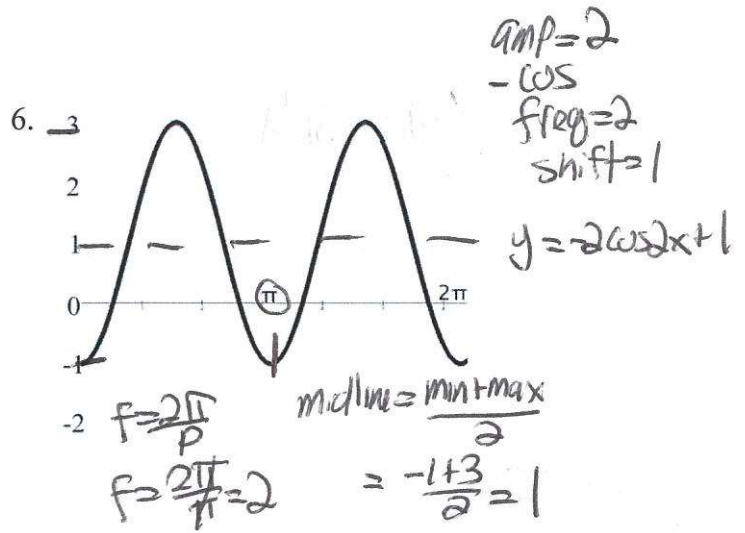
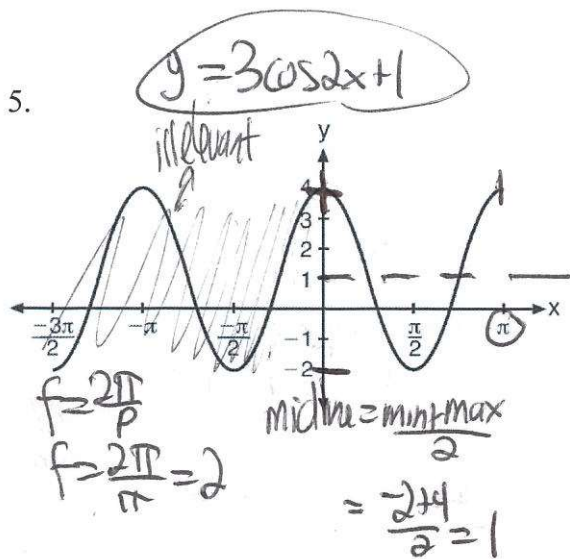


Writing Equations of Sinusoidal Graphs

Write an equation for the graph of the trigonometric functions shown below.

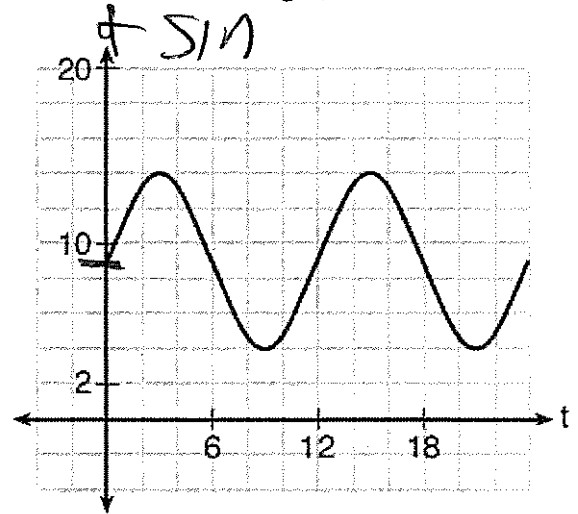




11. The depth of the water at a marker 20 feet from the shore in a bay is depicted in the graph below.

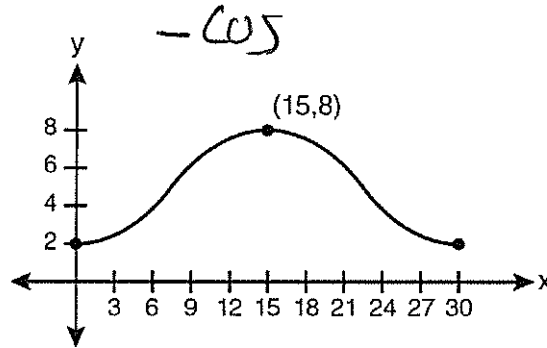
If the depth, d , is measured in feet and time, t , is measured in hours since midnight, what is an equation for the depth of the water at the marker?

- 1) ~~$d = 5 \cos\left(\frac{\pi}{6}t\right) + 9$~~ *not +sin*
- 2) ~~$d = 9 \cos\left(\frac{\pi}{6}t\right) + 5$~~
- 3) ~~$d = 9 \sin\left(\frac{\pi}{6}t\right) + 5$~~ *midline not 5*
- ④ $d = 5 \sin\left(\frac{\pi}{6}t\right) + 9$



12. Which equation is graphed in the diagram below?

- 1) ~~$y = 3 \cos\left(\frac{\pi}{30}x\right) + 8$~~ *not -cos*
- 2) ~~$y = 3 \cos\left(\frac{\pi}{15}x\right) + 5$~~
- 3) ~~$y = -3 \cos\left(\frac{\pi}{30}x\right) + 8$~~ *midline not 8*
- 4) $y = -3 \cos\left(\frac{\pi}{15}x\right) + 5$



13. Which equation is represented by the graph below?

- ① $y = 2 \cos 3x$
- 2) ~~$y = 2 \sin 3x$~~
- 3) ~~$y = 2 \cos\left(\frac{2\pi}{3}x\right)$~~ *not +cos*
- 4) ~~$y = 2 \sin\left(\frac{2\pi}{3}x\right)$~~ *P = 2π/3, not 3π/8*

