

Precalculus Honors

HW Handout #2 - Graphing Sine and Cosine

For #1-6, graph each function.

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

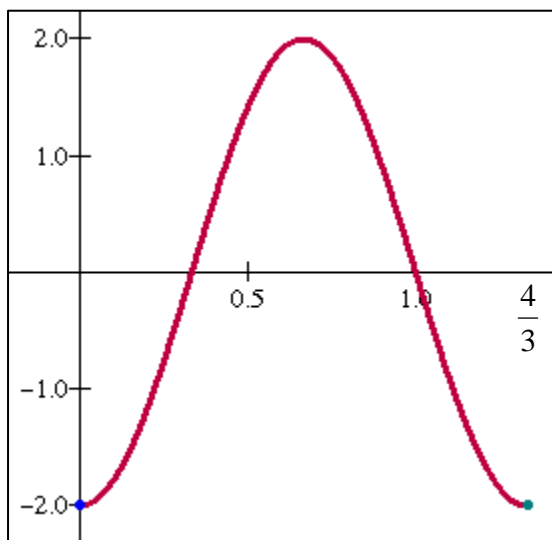
2) $y = -4 \sin\left(\frac{\pi}{6}x - \frac{\pi}{3}\right) + 3$

3) $y = \cos(3\pi x - 9\pi) + 5$

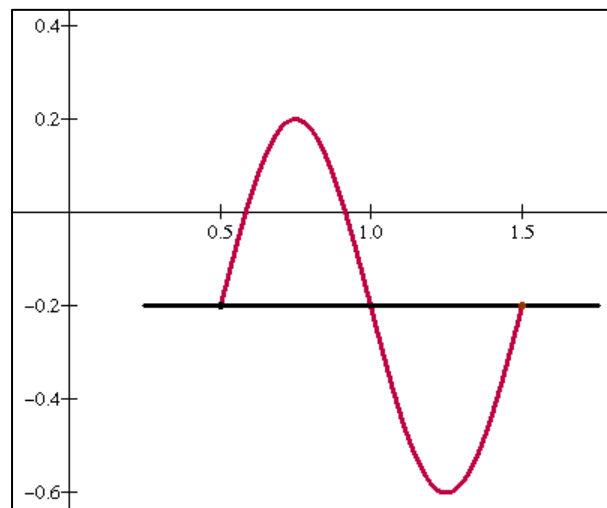
4) $y = -2 \cos\left(x + \frac{3\pi}{4}\right)$

For #5-7, write an equation for each graph shown.

5)



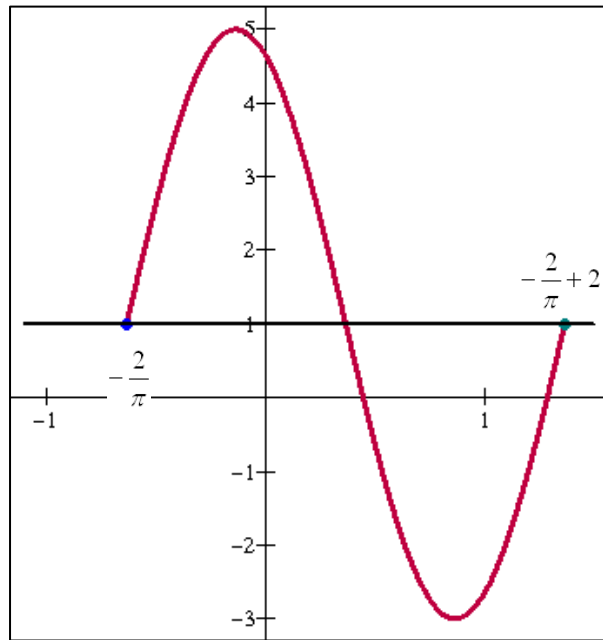
6)



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7)



8) Write the equation of the line that is horizontally tangent to the minimum point of

$$y = 4 \cos \frac{7\pi}{3} x + 1.$$

9) Catastrophe at the first ever Monmouth County Math Football Challenge!!! Participants were given the equation $y = 6 - 5 \sin(3\pi x)$ and asked to find the slope of the secant line that passes through the maximum and minimum points of any one cycle of the corresponding graph. The only problem is – the referees lost the solution! Please provide a detailed solution to this problem, including how many points you would award for each step of the solution.