Alg 2B Review Test #2: Sec 13-1, 13-4 to 13-7 Spring 2018

Round decimal answers to the nearest hundredth unless otherwise noted.

1. State the amplitude and period of each function. Give the period in radians.

a) $y = 5\sin(8x)$ b) $y = 7\cos(\frac{4x}{5})$

2. Graph one period of each. Label the coordinates of all maximums, minimums, and pts on the midline.

a) $y = 3\text{Sin}(3x)$ b) $y = -4\text{Cos}\left(\frac{x}{5}\right)$

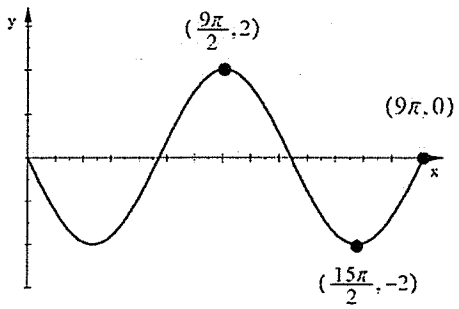
3. State the Phase Shift(distance and direction) and the equation of the midline for each function.

a) $y = 6\sin(4(x - \frac{\pi}{4})) + 7$ b) $y = -3\cos(\frac{1}{4}(x + \pi)) - 2$

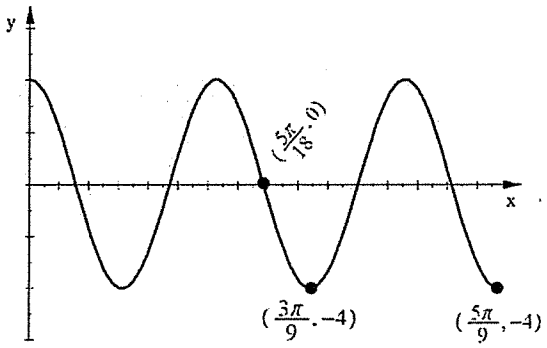
4.Graph one period of each. State the coordinates of all maximums, minimums, and pts on the midline.

a) $y = -5\text{Sin}(6(x - \frac{5\pi}{6})) + 2$ b) $y = 9\text{Cos}(7(x + \frac{\pi}{4})) - 5$

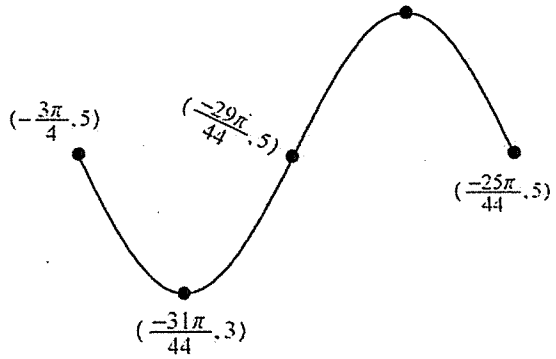
5. Write a Sin equation for this graph



6. Write a Cos equation for this graph.

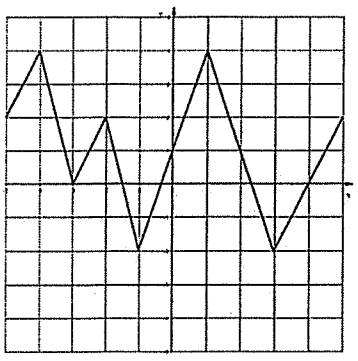


7. Write both a sine and cosine equation for this function.

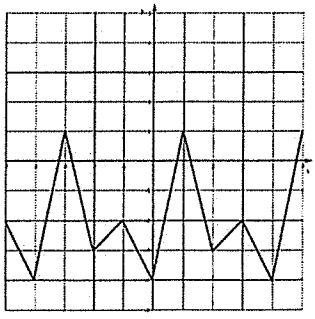


8. State if each function is periodic. If yes, state the amplitude, period, and eq for midline

a)



b)

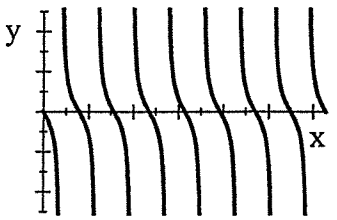


9. For each Tangent function find the period, give 3 Vertical Asymptotes, and give 3 x-intercepts.

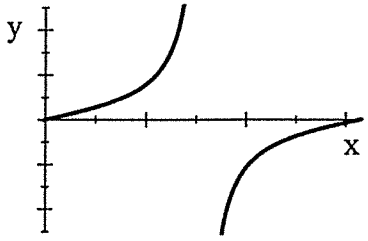
a) $y = -\text{Tan}(5x)$ b) $y = \text{Tan}\left(\frac{x}{3}\right)$

10. Write the equation for each Tangent Graph.

a) Window is from 0 to 6π.



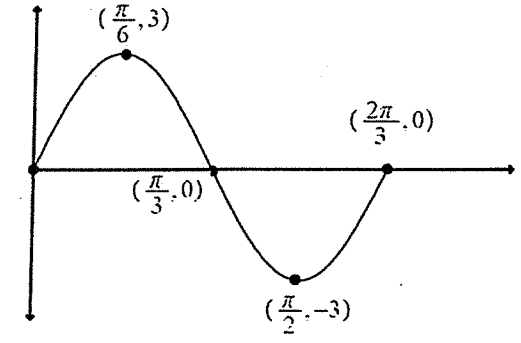
b) Window is from 0 to 4π.



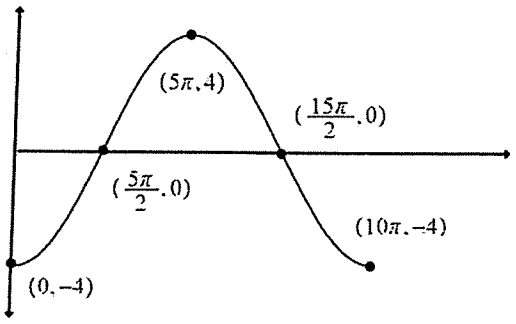
Alg 2B Review Test #2: Sec 13-1, 13-4 to 13-7 ANSWERS Spring 2018

1. a) Amp= 5 Period= $\frac{\pi}{4}$ b) Amp= 7 Period= $\frac{5\pi}{2}$

2a)

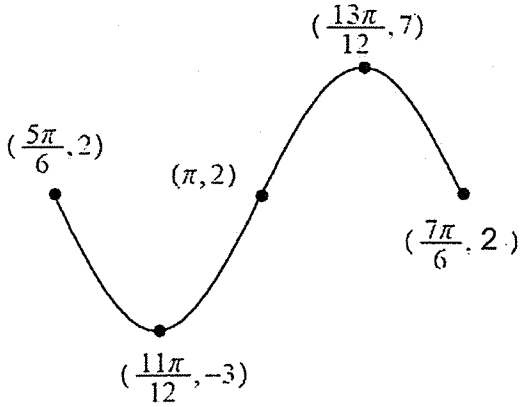


2b)

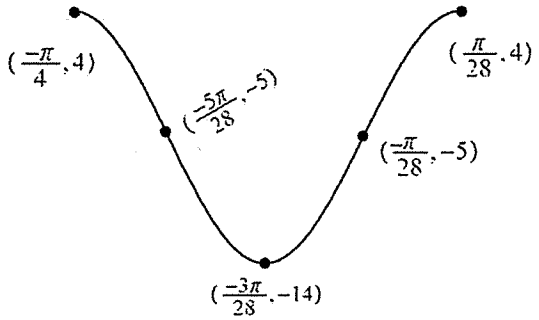


3. a) Phase Shift: $\frac{\pi}{4}$ right, Midline: $y = 7$ b) Phase Shift: π left, Midline: $y = -2$

4. a)



b)



5. $y = -2\text{Sin}\left(\frac{x}{3}\right)$ 6. $y = 4\text{Cos}9x$

7. Other answers are possible depending on the starting point you pick. Below are some example answers.

$y = -2\text{Sin}(11(x + \frac{3\pi}{4})) + 5$ $y = -2\text{Cos}(11(x + \frac{31\pi}{44})) + 5$

8. a) Not Periodic b) Periodic. Amp= 2.5, Period= 4, Midline: $y = -1.5$

9. a) Period= $\frac{\pi}{5}$, x-int: $x = 0, \frac{\pi}{5}, \frac{2\pi}{5}$ VA: $x = \frac{\pi}{10}, \frac{3\pi}{10}, \frac{\pi}{2}$

b) Period= 3π, x-int: $x = 0, 3\pi, 6\pi$ VA: $x = \frac{3\pi}{2}, \frac{9\pi}{2}, \frac{15\pi}{2}$

10. a) $y = -\text{Tan}\frac{4x}{3}$ b) $y = \text{Tan}\frac{x}{4}$