Bellwork Alg 2B Thursday, March 22, 2018

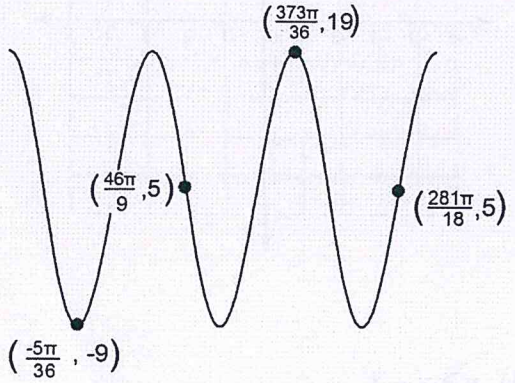
1. Graph one period of this function. Give the coordinates of all max's, min's, and points on the midline.

$y = 9\text{Cos}\frac{7x}{11}$

2. State the period of this function:

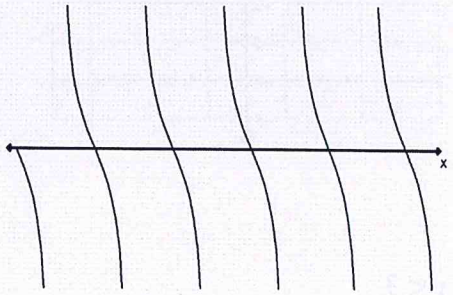
$y = -9\text{Tan}\frac{17x}{9}$

3. Write both a Sin and Cos equation for this graph



4. Write the equation of this graph.

Window: $-\frac{\pi}{3}$ to $\frac{8\pi}{2}$



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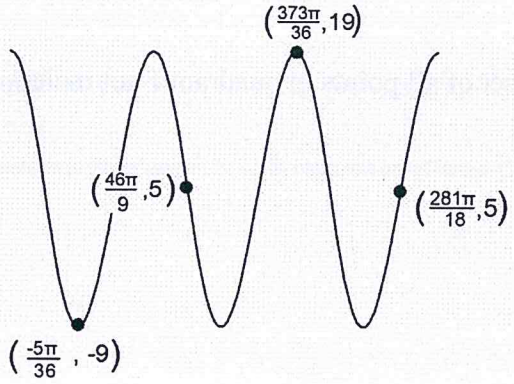

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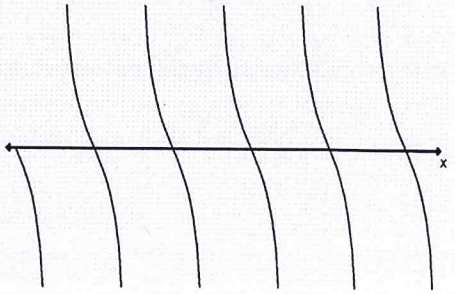
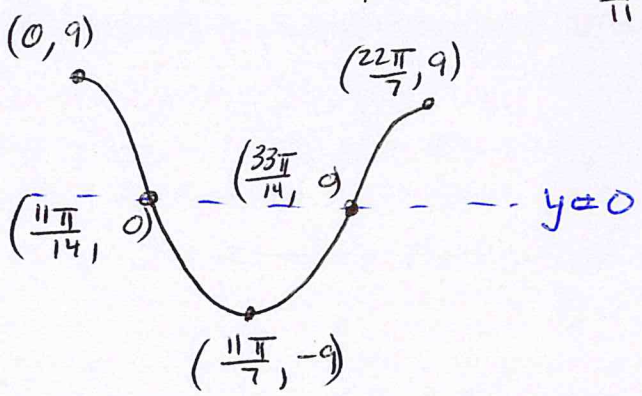


ALG 2B BELLWORK **Answers** THUR 3-22-18

(1) $y = 9\cos\frac{7x}{11}$ Amplitude = 9 midline: $y=0$

period $= \frac{2\pi}{\frac{7}{11}} = 2\pi\cdot\frac{11}{7} = \frac{22\pi}{7}$ NO phase shift



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(2) $y = -9\tan\frac{17x}{9}$ period $= \frac{\pi}{\frac{17}{9}} = \pi\cdot\frac{9}{17} = \frac{9\pi}{17}$

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(3) midline: $y=5$ Amplitude $=14$

period: $\frac{\frac{373\pi}{36} - -\frac{5\pi}{36}}{1\frac{1}{2}} = \frac{\frac{378\pi}{36}}{3/2} = \frac{378\pi}{36}\cdot\frac{2}{3} = 7\pi$ $b = \frac{2\pi}{7\pi} = \frac{2}{7}$

Cos if start at $(\frac{-5\pi}{36}, -9)$ $y = -14\cos\left(\frac{2}{7}\left(x + \frac{5\pi}{36}\right)\right) + 5$

Sin if start at $(\frac{46\pi}{9}, 5^-)$ $y = -14\sin\left(\frac{2}{7}\left(x - \frac{46\pi}{9}\right)\right) + 5$

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(4) period $= \frac{\frac{3}{3}\frac{8\pi}{2} - -\frac{\pi}{3}\cdot\frac{2}{2}}{5\frac{1}{2}} = \frac{\frac{24\pi}{6} + \frac{2\pi}{6}}{\frac{11}{2}} = \frac{26\pi}{6}\cdot\frac{2}{11} = \frac{26\pi}{33}$

$b = \frac{\pi}{\frac{26\pi}{33}} = \pi\cdot\frac{33}{26\pi} = \frac{33}{26}$

$y = -\tan\frac{33x}{26}$