Hon Alg 2 Bellwork Wednesday, May 31, 2017

1. Use this function: $y = \text{Tan}\frac{7x}{4}$

a) Find five x-intercepts.

b) Find the equation of five Vertical Asymptotes.

2. Give the EXACT value of each.

a) $\text{Cot}\frac{19\pi}{3}$

b) $\text{Csc}1410°$

c) $\text{Sec}\left(\frac{-13\pi}{2}\right)$

3. Find each to the nearest hundredth:

a) $\text{Sec}\left(\frac{8\pi}{7}\right)$

b) $\text{Cot}(-1723°)$

4. Given $\text{Csc}x = \frac{7}{4}$ find the remaining five trig functions as ratios. Simplify and rationalize all denominators when necessary.

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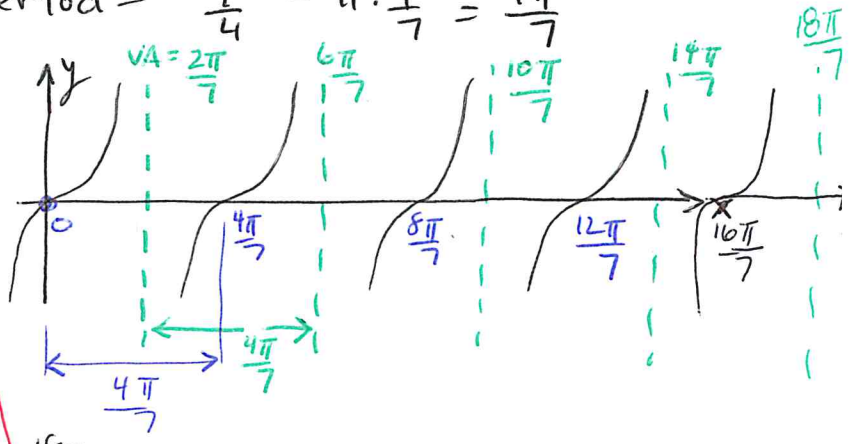
Hon Alg 2 Bellwork 5-31-17 Answers

① $y = \tan \frac{7}{4}x$ Period $= \frac{\pi}{\frac{7}{4}} = \pi \cdot \frac{4}{7} = \frac{4\pi}{7}$



a) X-int:

$X = 0, \frac{4\pi}{7}, \frac{8\pi}{7}, \frac{12\pi}{7}, \frac{16\pi}{7}$

b) VA

$X = \frac{2\pi}{7}, \frac{6\pi}{7}, \frac{10\pi}{7}, 2\pi, \frac{18\pi}{7}$

② a) $\cot \frac{19\pi}{3} = \cot \frac{\pi}{3} = \frac{x}{y} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

b) $\csc 1410 = \csc 330 = \frac{1}{y} = \frac{1}{-\frac{1}{2}} = -2$

c) $\sec\left(\frac{-13\pi}{2}\right) = \sec\left(\frac{3\pi}{2}\right) = \frac{1}{x} = \frac{1}{0} =$ undefined

③ a) $\sec\left(\frac{8\pi}{7}\right) = \frac{1}{\cos\left(\frac{8\pi}{7}\right)} = -1.11$

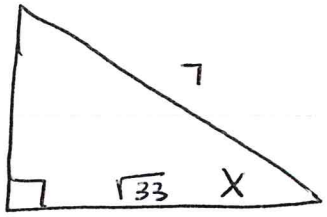
b) $\cot(-1723°) = \frac{1}{\tan(-1723°)} = 0.23$

④ $\csc x = \frac{7}{4}$

$\sin x = \frac{4}{7}$ $\quad \tan x = \frac{4}{\sqrt{33}} = \frac{4\sqrt{33}}{33}$

$\cos x = \frac{\sqrt{33}}{7}$ $\quad \cot x = \frac{\sqrt{33}}{4}$

$\sec x = \frac{7}{\sqrt{33}} = \frac{7\sqrt{33}}{33}$



$4^2 + \text{Leg}^2 = 7^2$

$16 + \text{Leg}^2 = 49$

$\text{Leg}^2 = 33$

$\text{Leg} = \sqrt{33}$