Bellwork Alg 2B Monday, May 14, 2018

1. Sketch one period of this reciprocal trig function. Label coordinates of the max's and min's and identify the VA.

$y = 8\text{Csc}\left(5\left(x + \frac{2\pi}{3}\right)\right) + 6$

2. State the equations of 5 VA and the location of 5 x-intercepts of this function: $y = -\text{Cot}\left(\frac{8x}{5}\right)$

EQ of VA: x-intercepts:

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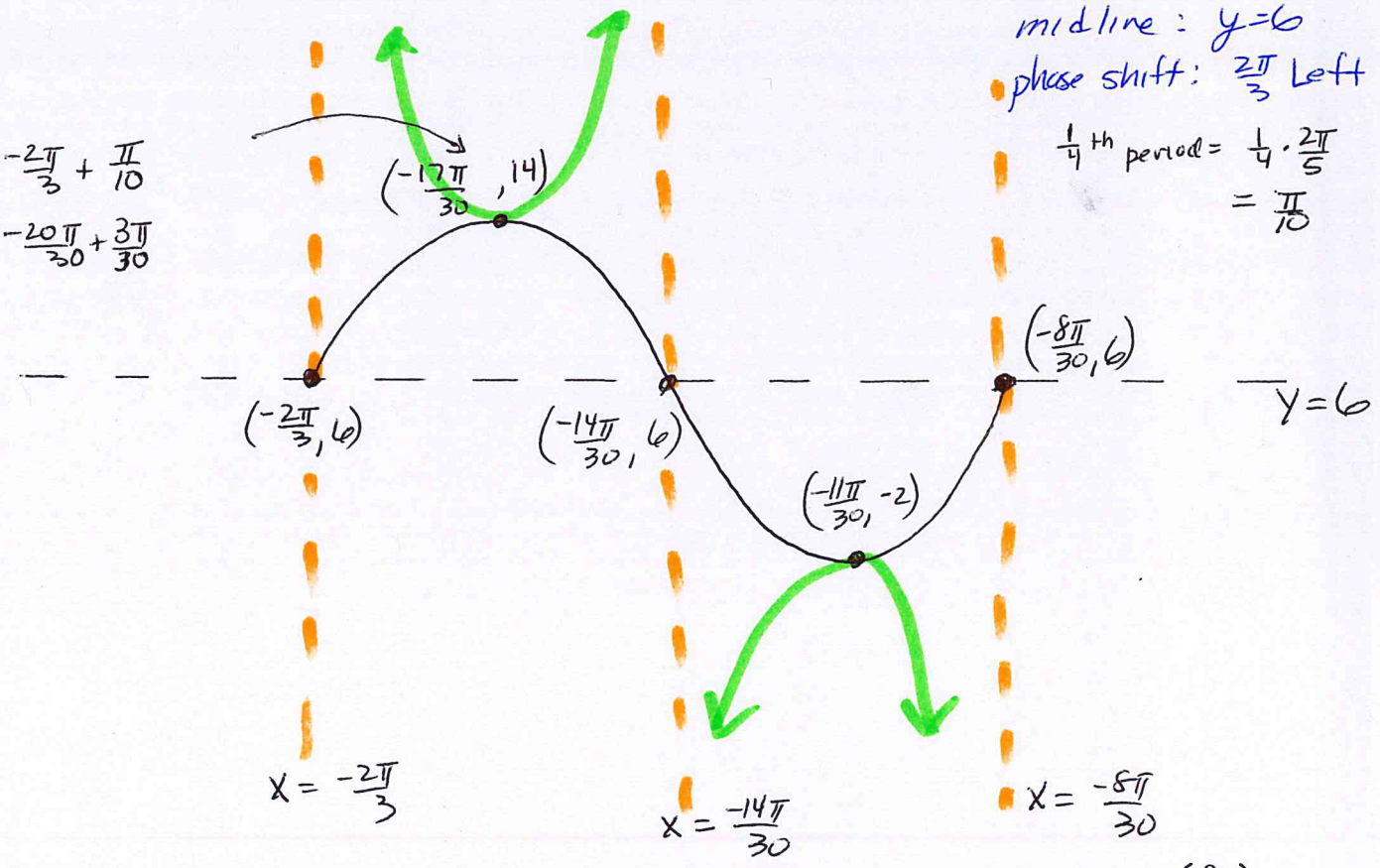
ANSWERS

1. Sketch one period of this reciprocal trig function. Label coordinates of the max's and min's and identify the VA.

$y = 8\text{Csc}\left(5\left(x + \frac{2\pi}{3}\right)\right) + 6$ $\longrightarrow$ $8\sin\left(5\left(x + \frac{2\pi}{3}\right)\right) + 6$

Amp = 8
period = $\frac{2\pi}{5}$
midline: $y = 6$
phase shift: $\frac{2\pi}{3}$ Left
$\frac{1}{4}$ th period = $\frac{1}{4} \cdot \frac{2\pi}{5} = \frac{\pi}{10}$

$-\frac{2\pi}{3} + \frac{\pi}{10}$
$-\frac{20\pi}{30} + \frac{3\pi}{30}$



2. State the equations of 5 VA and the location of 5 x-intercepts of this function: $y = -\text{Cot}\left(\frac{8x}{5}\right)$

EQ of VA:

$x = 0, \pm\frac{5\pi}{8}, \pm\frac{10\pi}{8}$

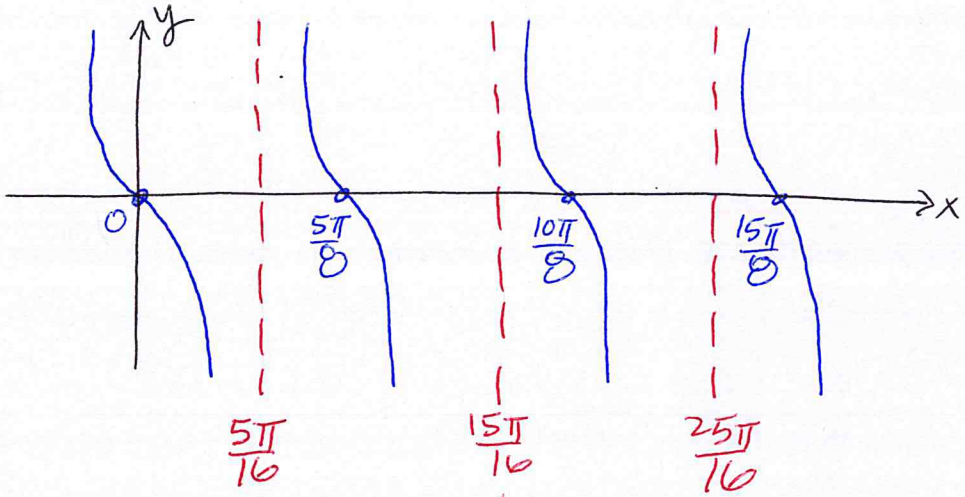
x-intercepts:

$x = \pm\frac{5\pi}{16}, \pm\frac{15\pi}{16}, \pm\frac{25\pi}{16}$

$y = -\text{Tan}\left(\frac{8x}{5}\right)$

Period = $\frac{5\pi}{8}$

$y = -\text{Tan}\frac{8x}{5}$:



FOR TAN:

X-INT: $0, \pm\frac{5\pi}{8}, \pm\frac{10\pi}{8}$

VA: $x = \pm\frac{5\pi}{16}, \pm\frac{15\pi}{16}, \pm\frac{25\pi}{16}$