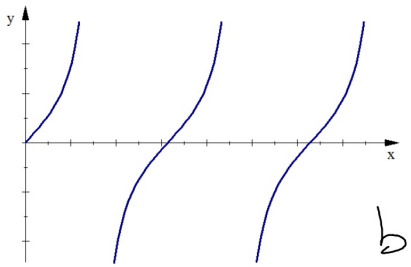
Write the equation for the Tangent function shown in the graph.
The window is 0 to 7π



pos

$y = a\,\text{Tan}\,bx$

$y = \text{Tan}\,\frac{5x}{14}$

$b = \frac{\pi}{\frac{14\pi}{5}}$

$b = \frac{5}{14}$

period $= \frac{7\pi}{\frac{5}{2}}$

$= 7\pi \cdot \frac{2}{5}$

$= \frac{14\pi}{5}$

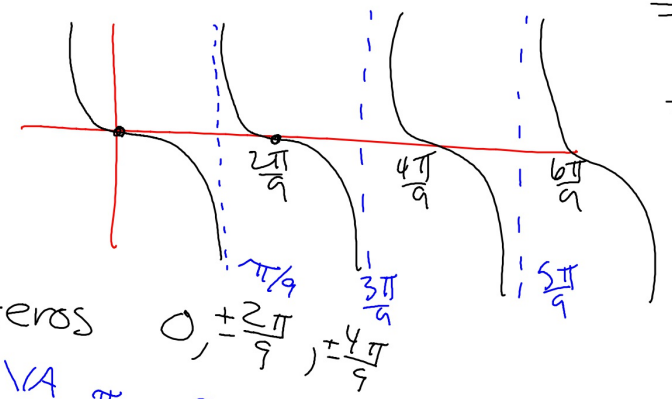
Find four zeros and four Vertical Asymptotes of this Tangent Function:

$y = -5\text{Tan}\frac{9x}{2}$

period $= \frac{\pi}{b}$

$= \frac{\pi}{\frac{9}{2}}$

$= \frac{2\pi}{9}$



Zeros $0, \pm\frac{2\pi}{9}, \pm\frac{4\pi}{9}$

VA $\pm\frac{\pi}{9}, \pm\frac{\pi}{3}$

Find both a positive and a negative coterminal angle to the given angle below. Give your answers in radians.

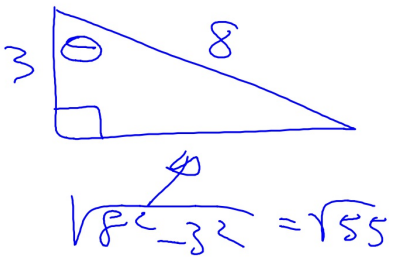
$\theta = \frac{-43\pi}{9} \pm 2\pi$

$-\frac{43\pi}{9} \pm \frac{18\pi}{9}$

POS: $\frac{11\pi}{9}, \frac{29\pi}{9}, \ldots$

NEG: $-\frac{25\pi}{9}, -\frac{7\pi}{9}, -\frac{61\pi}{9}, \ldots$

Given $\text{Sec}\theta = \frac{8}{3}$ find the other five trigonometric functions as ratios.



$\sin\theta = \frac{\sqrt{55}}{8}$

$\cos\theta = \frac{3}{8}$

$\text{Tan}\theta = \frac{\sqrt{55}}{3}$

$\cot\theta = \frac{3\sqrt{55}}{55}$

$\csc\theta = \frac{8}{\sqrt{55}} \cdot \frac{\sqrt{55}}{\sqrt{55}} = \frac{8\sqrt{55}}{55}$

Graph one period of this function. Label the coordinates of all max, min, and zeros.

$y = -4\text{Cos}(6(x - \frac{2\pi}{5})) + 3$

midline $y = 3$

Amplitude = 4

phase shift $\frac{2\pi}{5}$ RT

period $\frac{2\pi}{6} = \frac{\pi}{3}$

$\frac{1}{4}$ of a period $\frac{\pi}{3} \cdot \frac{1}{4} = \frac{\pi}{12}$