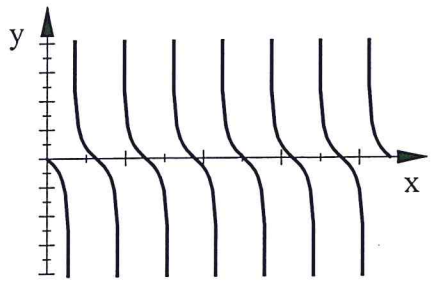
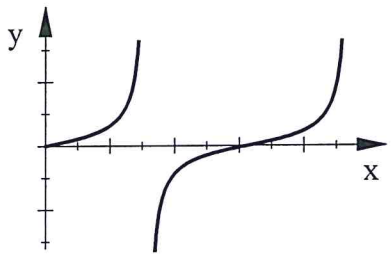
Algebra 2 Bellwork Wednesday, May 25, 2016

Find the period and write the equation of each Tangent Function.

1. The window shown is 0 to 2π



2. The window shown is 0 to 5π



Find the location of five x-intercepts and five Vertical Asymptotes.

3. $y = -7\text{Tan}6x$

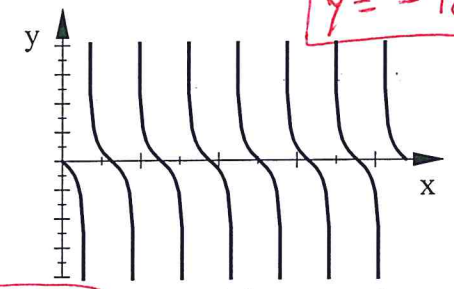
4. $y = 3\text{Tan}\frac{7x}{4}$

Algebra 2 Bellwork Wednesday, May 25, 2016 Answers

Find the period and write the equation of each Tangent Function.

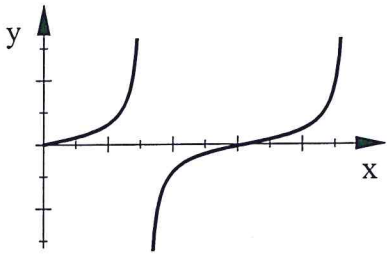
1. The window shown is 0 to 2π

$Y = -\text{Tan}\frac{7x}{2}$



Period $= \frac{2\pi}{7}$ $\quad b = \frac{\pi}{\frac{2\pi}{7}} = \pi \cdot \frac{7}{2\pi} = \frac{7}{2}$

2. The window shown is 0 to 5π



Period $= \frac{5\pi}{1\frac{1}{2}} = \frac{5\pi}{\frac{3}{2}}$

$= 5\pi \cdot \frac{2}{3} = \frac{10\pi}{3}$

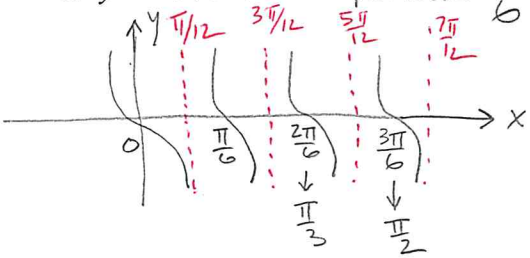
$b = \frac{\pi}{\frac{10\pi}{3}} = \pi \cdot \frac{3}{10\pi} = \frac{3}{10}$

$Y = \text{Tan}\frac{3x}{10}$

Find the location of ~~three~~ FIVE x-intercepts and ~~three~~ FIVE Vertical Asymptotes.

3. $y = -7\text{Tan}6x$

Period $= \frac{\pi}{6} \rightarrow \frac{2\pi}{12}$

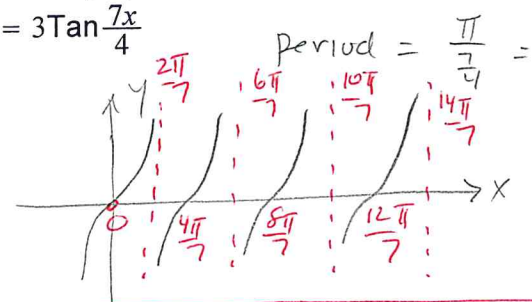


X-INT: $0, \pm\frac{\pi}{6}, \pm\frac{\pi}{3}, \pm\frac{\pi}{2}, \ldots$

VA: $x = \pm\frac{\pi}{12}, \pm\frac{\pi}{4}, \pm\frac{5\pi}{12}, \pm\frac{7\pi}{12} \ldots$

4. $y = 3\text{Tan}\frac{7x}{4}$

Period $= \frac{\pi}{\frac{7}{4}} = \frac{4\pi}{7}$



X-INT: $0, \pm\frac{4\pi}{7}, \pm\frac{8\pi}{7}, \pm\frac{12\pi}{7}, \ldots$

VA: $x = \pm\frac{2\pi}{7}, \pm\frac{6\pi}{7}, \pm\frac{10\pi}{7}, \ldots$