

## Assignment 8.B1-Tangent & Cotangent

Describe how the graph the following curves differs from  $y = \tan x$  and  $y = \cot x$ .

- $y = 2 \tan 3x$  **Vertical stretch=2; Period= $\frac{\pi}{3}$**
- $y = -\tan\left(\frac{x}{2}\right) - 5$  **Vertical flip, Vertical shift down 5, Period= $2\pi$**
- $y = 5 \cot(x + 3) + 12$  **Vertical stretch=5; Horizontal shift=3; Vertical shift=12; Period =  $\pi$**

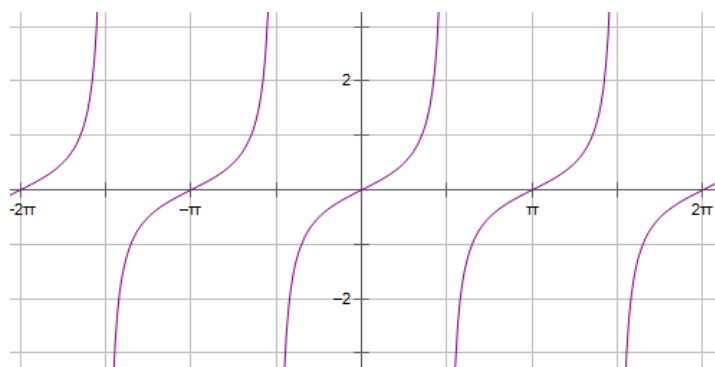
Graph at least two periods for the following functions. State the period of each function and the location of the asymptotes.

4.  $y = -2 \tan x$



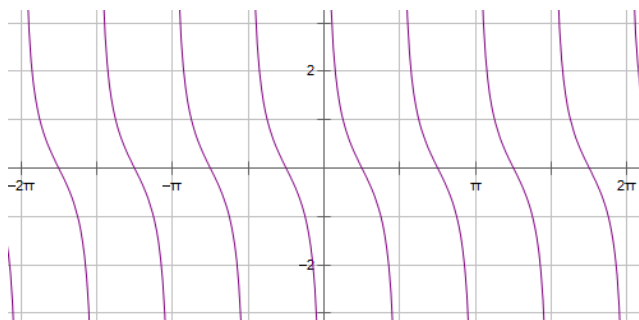
Period= $\pi$  asymptotes= $\frac{\pi}{2} + \pi n$

5.  $y = \frac{1}{2} \tan(x + \pi)$



Period= $\pi$  asymptotes= $\frac{\pi}{2} + \pi n$

6.  $y = \cot(2x)$



Period= $\frac{\pi}{2}$  asymptotes= $0 + \frac{\pi}{2} n$

7.  $y = \cot(-x)$



Period= $\pi$  asymptotes= $0 + \pi n$