

Graphing tangent and cotangent functions
Practice Worksheet

Name _____

Example: $y = \tan\left(4x - \frac{\pi}{2}\right)$

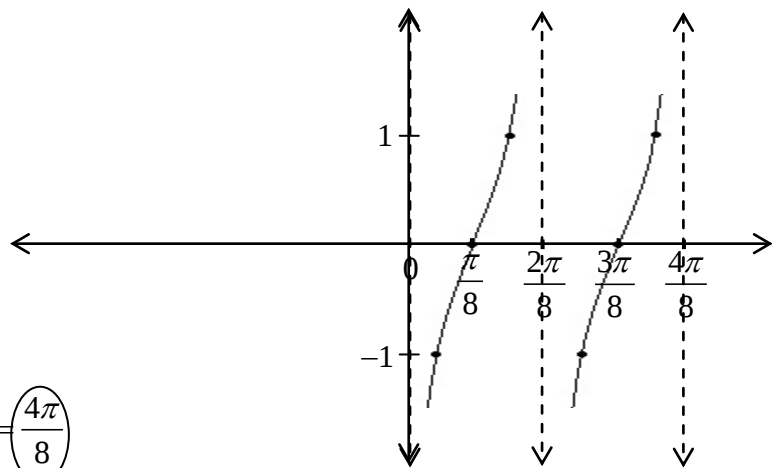
$$y = \tan 4\left(x - \frac{\pi}{8}\right)$$

start @ $\frac{\pi}{8}$

$$\text{period} = \frac{\pi}{4}; \frac{\pi}{4} \div 2 = \frac{\pi}{8}$$

Asymptotes @

$$\frac{\pi}{8} - \frac{\pi}{8} = 0; \frac{\pi}{8} + \frac{\pi}{8} = \left(\frac{2\pi}{8}\right); \frac{2\pi}{8} + \frac{\pi}{4} = \left(\frac{4\pi}{8}\right)$$



Example: $y = \cot\left(4x - \frac{\pi}{2}\right)$

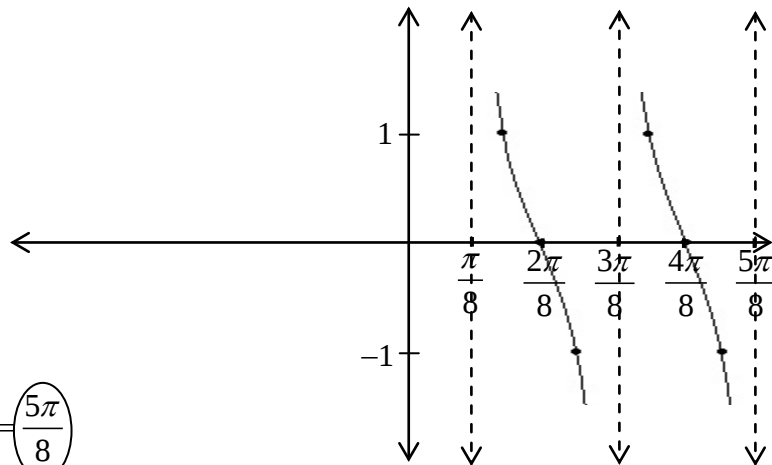
$$y = \cot 4\left(x - \frac{\pi}{8}\right)$$

start @ $\frac{\pi}{8}$

$$\text{period} = \frac{\pi}{4}$$

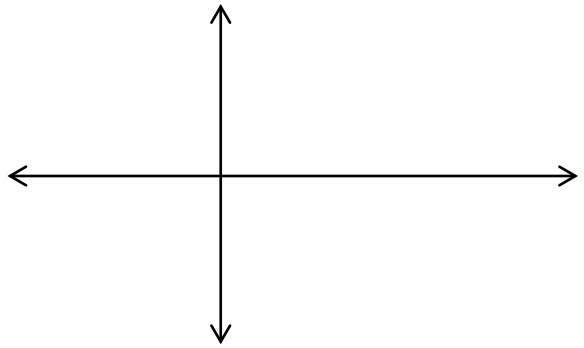
Asymptotes @

$$\left(\frac{\pi}{8}\right); \frac{\pi}{8} + \frac{\pi}{4} = \left(\frac{3\pi}{8}\right); \frac{3\pi}{8} + \frac{\pi}{4} = \left(\frac{5\pi}{8}\right)$$

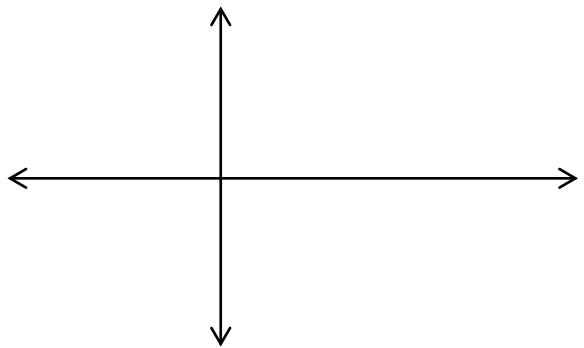


Graph each function over a two-period interval. Practice accuracy and label all axes completely!

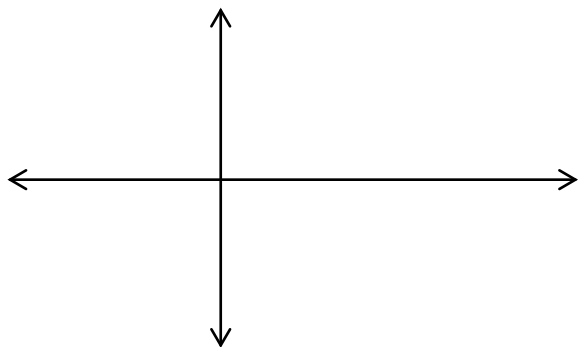
1. $y = \tan \frac{x}{2}$



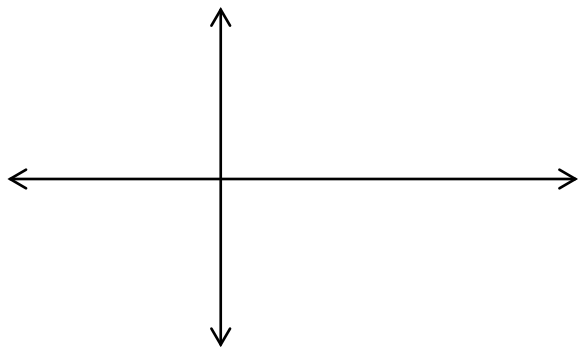
2. $y = -\tan \left(\frac{\pi x}{4} \right)$



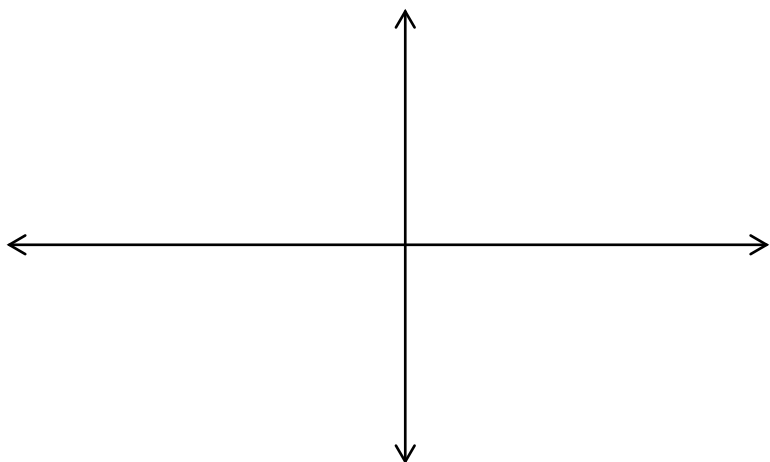
3. $y = \tan \left(x + \frac{\pi}{4} \right)$



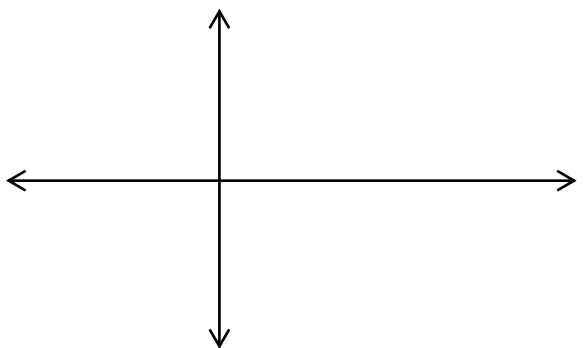
4. $y = -\tan \left(\frac{\pi x}{4} - \frac{\pi}{2} \right)$



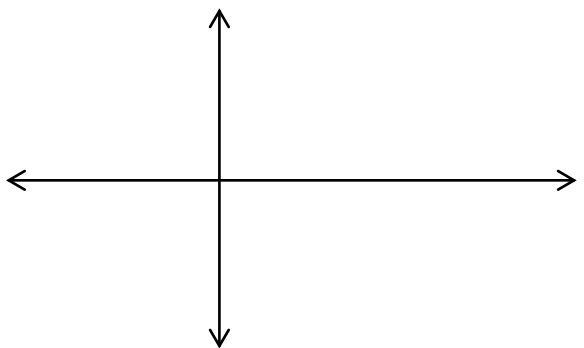
5. $y = 2 + 3 \tan x$



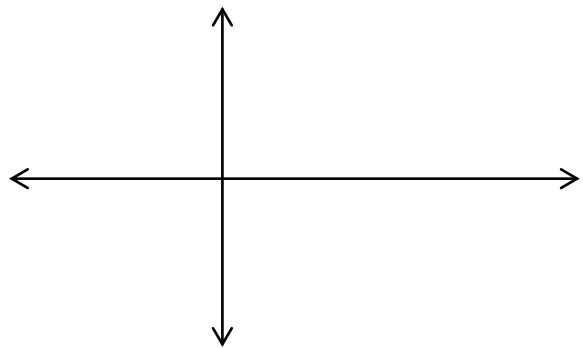
6. $y = -\cot\left(\frac{x}{2}\right)$



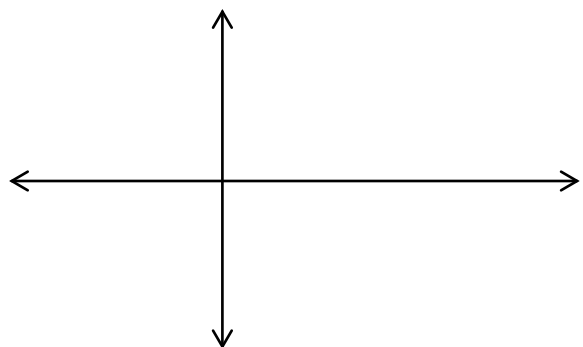
7. $y = \cot \frac{\pi x}{4}$



8. $y = \cot\left(2x - \frac{\pi}{2}\right)$



9. $y = -\cot\left(\frac{\pi x}{2} - \frac{\pi}{4}\right)$



10. $y = 3 + 2 \cot x$

