

Tangent $\rightarrow -\pi/2 \text{ \& } \pi/2$
 $-90^\circ \text{ \& } 90^\circ$

Trig Graphing WS
 Tangent and Cotangent

Cotangent $\rightarrow 0 \text{ \& } \pi$
 $0^\circ \text{ \& } 180^\circ$

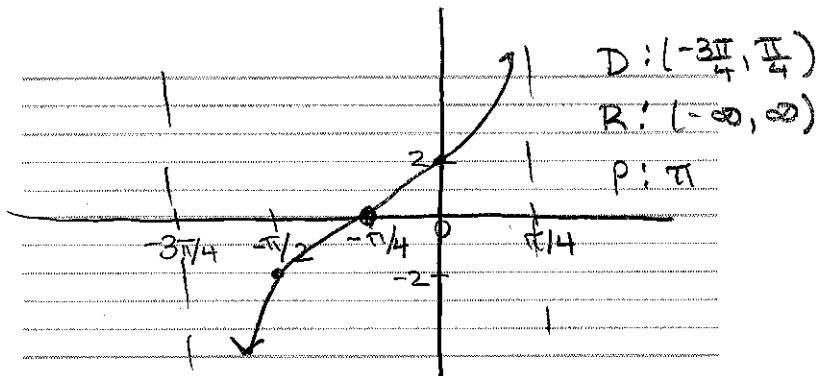
Name Key

Graph one complete period for each function and give the domain and range of that period.

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

$x + \frac{\pi}{4} = -\frac{\pi}{2}$ $x + \frac{\pi}{4} = \frac{\pi}{2}$

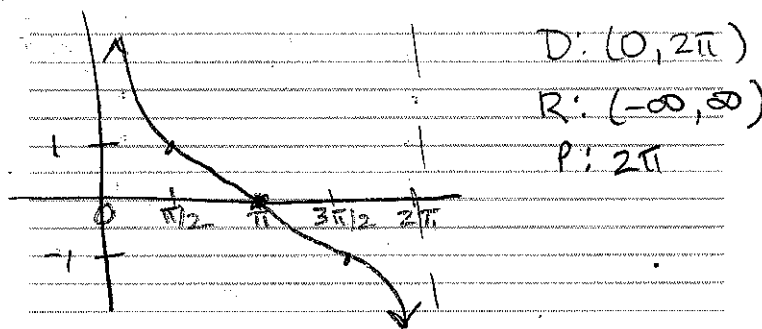
$x = -\frac{3\pi}{4}$ $x = \frac{\pi}{4}$



2. $y = \cot\left(\frac{1}{2}x\right)$

$\frac{1}{2}x = 0$ $\frac{1}{2}x = \pi$

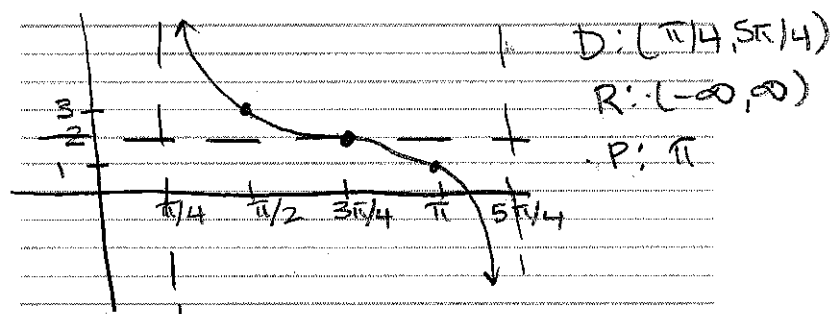
$x = 0$ $x = 2\pi$



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

$x - \frac{\pi}{4} = 0$ $x - \frac{\pi}{4} = \pi$

$x = \frac{\pi}{4}$ $x = \frac{5\pi}{4}$

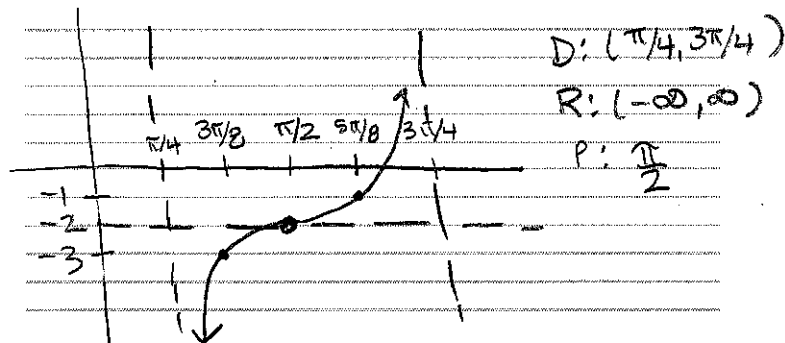


4. $y = \tan(2x - \pi) - 2$

$2x - \pi = -\frac{\pi}{2}$ $2x - \pi = \frac{\pi}{2}$

$2x = \frac{\pi}{2}$ $2x = \frac{3\pi}{2}$

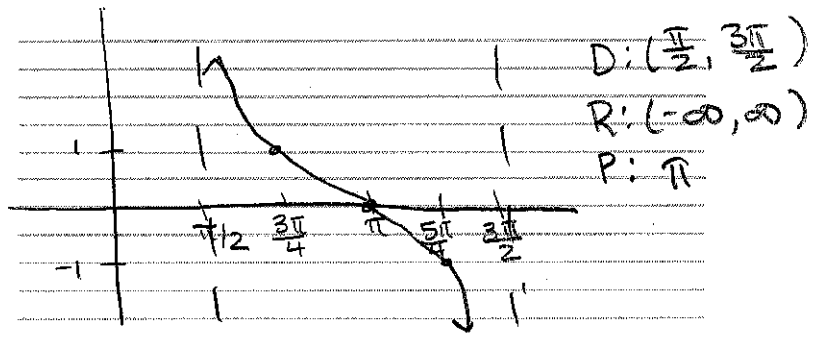
$x = \frac{\pi}{4}$ $x = \frac{3\pi}{4}$



$$5. y = \cot\left(x - \frac{\pi}{2}\right)$$

$$x - \frac{\pi}{2} = 0 \quad x - \frac{\pi}{2} = \pi$$

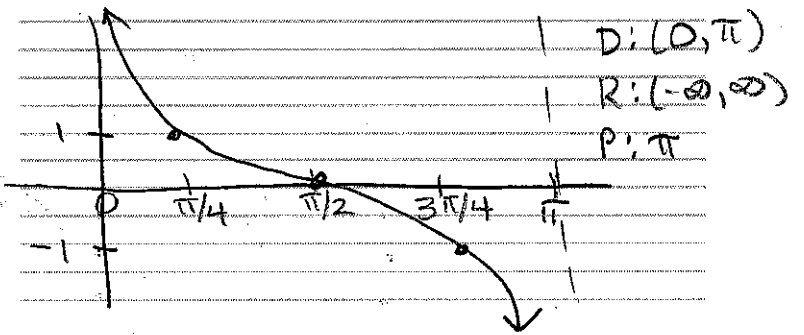
$$x = \frac{\pi}{2} \quad x = \frac{3\pi}{2}$$



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

$$x - \frac{\pi}{2} = -\frac{\pi}{2} \quad x - \frac{\pi}{2} = \frac{\pi}{2}$$

$$x = 0 \quad x = \pi$$

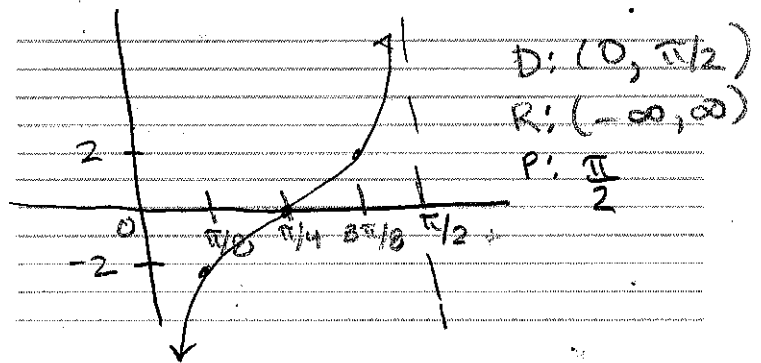


* Reflect x-axis!

$$7. y = -2 \cot(2x)$$

$$2x = 0 \quad 2x = \pi$$

$$x = 0 \quad x = \frac{\pi}{2}$$



* Reflect x-axis!

$$8. y = 3 \tan(3x)$$

$$3x = -\frac{\pi}{2} \quad 3x = \frac{\pi}{2}$$

$$x = -\frac{\pi}{6} \quad x = \frac{\pi}{6}$$

