

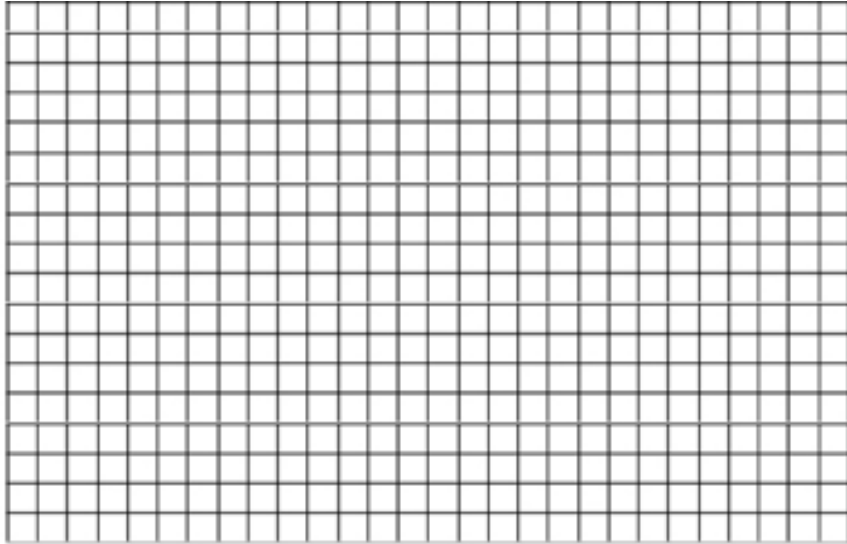
Tangent Functions

1.21.16

Lesson 7

6.7

$$y = \tan x$$



Periods are every:
What is the relationship to k ?
Domain:
Range:

$$y = A \tan(kx - c) + h$$

$$\text{Phase Shift} = \frac{c}{k}$$

$$\text{Period} = \frac{\pi}{k}$$

$$\text{Vertical Shift} = h$$

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

Plot the MIDPoint of the Phase Shift	
Find the period	
Find the endpoints	
Plot Asymptotes	
Sketch Graph	

We Try:

$$y = -\tan 4x - \pi$$

Plot the MIDPoint of the Phase Shift	
Find the period	
Find the endpoints	
Plot Asymptotes	
Sketch Graph	

You Try with your partner on whiteboards:

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

$$y = A \cot(kx - c) + h$$

$$\text{Phase Shift} = \frac{c}{k}$$

$$\text{Period} = \frac{\pi}{k}$$

$$\text{Vertical Shift} = h$$

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

Plot the Starting Point of the Phase Shift	
Find the period	
Plot Asymptotes	
Plot the midpoint	
Sketch Graph	

We Try:

$$y = -\cot(4x - \pi)$$

Plot the Starting Point of the Phase Shift	
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You Try with your partner on whiteboards:

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

Plot the Starting Point of the Phase Shift	
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Exit Ticket

Graph

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