GSE PreCalculus Graphing Trig
WS 4.8 Graphing Tan/Cot

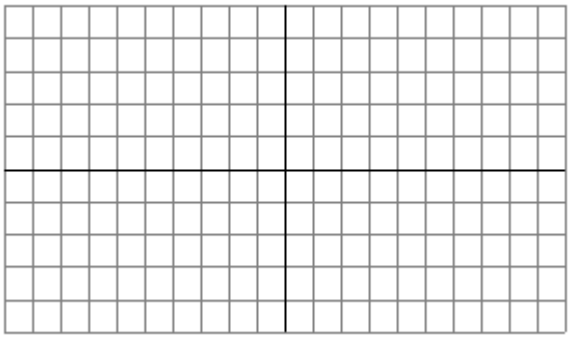
Name_____
Date_____Period_____

Graph each function

1. $f(x) = 3\tan(2x - 45^\circ) - 2$

Period:_____
Vertical Shift:_____
Horizontal Shift_____
Start:_____
End:_____
Increments:____

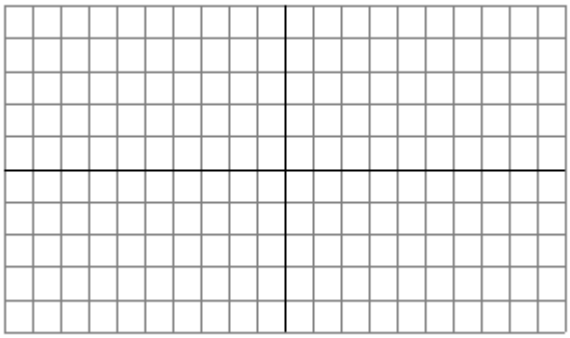
x	$f(x)$



2. $f(x) = -2\cot(x - 45^\circ) + 2$

Period:_____
Vertical Shift:_____
Horizontal Shift_____
Start:_____
End:_____
Increments:____

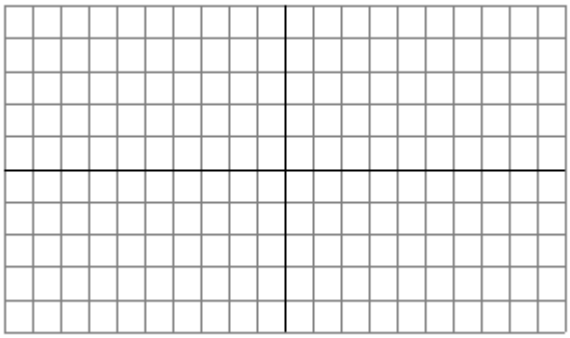
x	$f(x)$



3. $f(x) = 2\cot(x - \frac{\pi}{2}) + 1$

Period:_____
Vertical Shift:_____
Horizontal Shift_____
Start:_____
End:_____
Increments:____

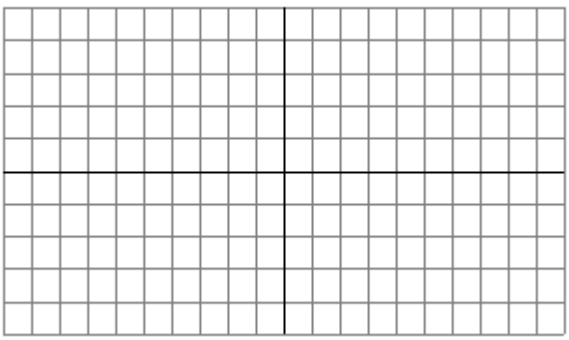
x	$f(x)$



4. $f(x) = -3\tan(x + \frac{5\pi}{4})$

Period:_____
Vertical Shift:_____
Horizontal Shift_____
Start:_____
End:_____
Increments:____

x	$f(x)$



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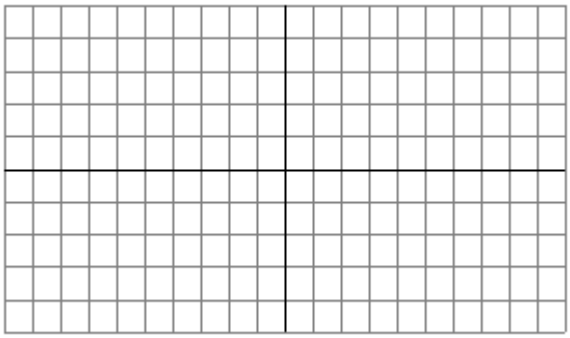
Name_____
Date_____Period_____

Graph each:

5. $f(x) = 2\tan(2x) - 2$

Period:_____
Vertical Shift:_____
Horizontal Shift_____
Start:_____
End:_____
Increments:____

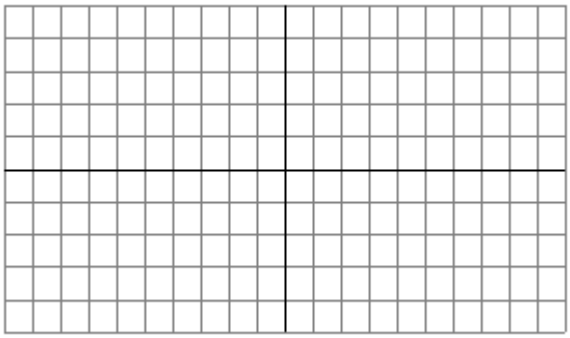
x	$f(x)$



6. $f(x) = \cot(x + 180^\circ) + 2$

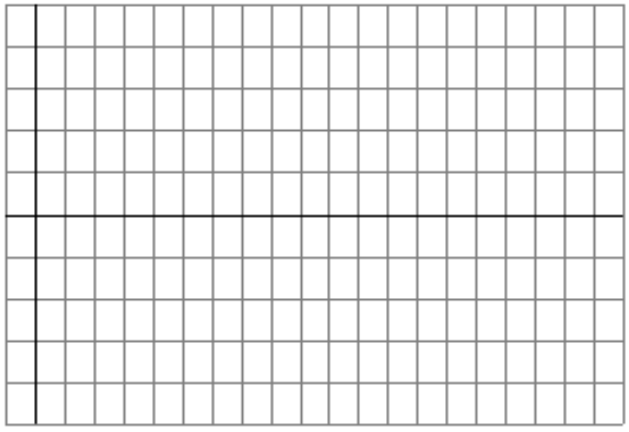
Period:_____
Vertical Shift:_____
Horizontal Shift_____
Start:_____
End:_____
Increments:____

x	$f(x)$



7. **Steamboat Problem** Mark Twain sat on the deck of a river steamboat. As the paddlewheel turned, a point on the paddle blade moved in such a way that its distance , d, from the water's surface was a sinusoidal function of time. When his stopwatch read 2 s, the point was at its highest, 18 ft above the waters surface. The wheels diameter was 22 ft, and it completed a revolution every 10 s

a. Sketch a graph of this sinusoid.
b. Write an equation of the sinusoid.



c. Predict your height above the ground when
   i. t = 0
   ii. t = 3
   iii. t= 4
   iv. t=8
   v. t=12
d. What is the first positive value of time at which the point was at the water's surface? At that time, was it going into or coming out of the water? Explain.