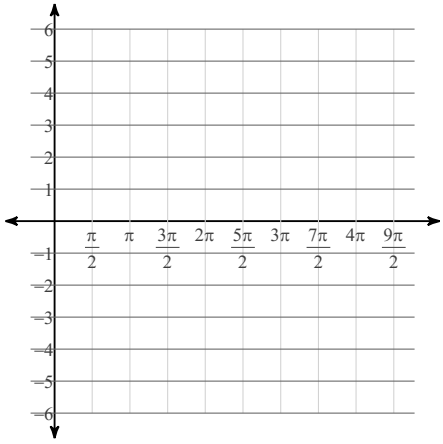
Accel. Precalculus Name_____

Graphing Tangent Functions

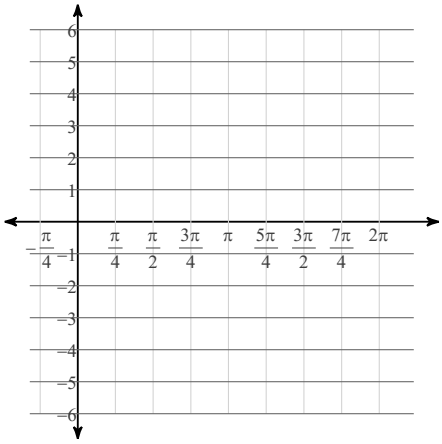
Date_____ Period____

Find the period in radians, the phase shift in radians, and the vertical shift. Then sketch the graph using radians.

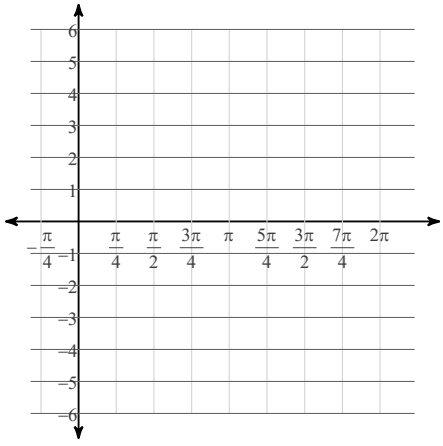
1) $y = \tan \frac{\theta}{3}$



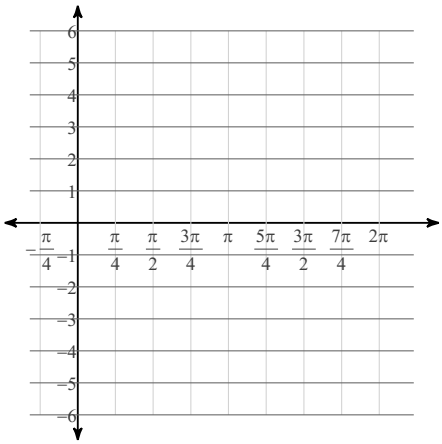
2) $y = \tan 2\theta$



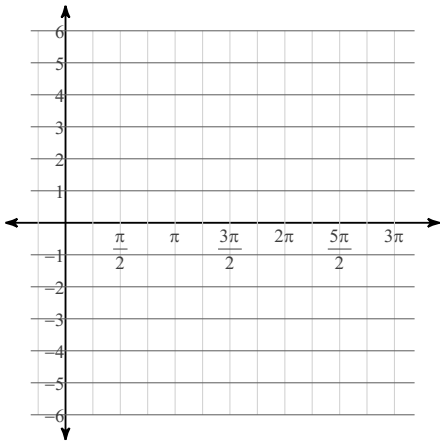
3) $y = \tan\left(\theta + \frac{\pi}{4}\right)$



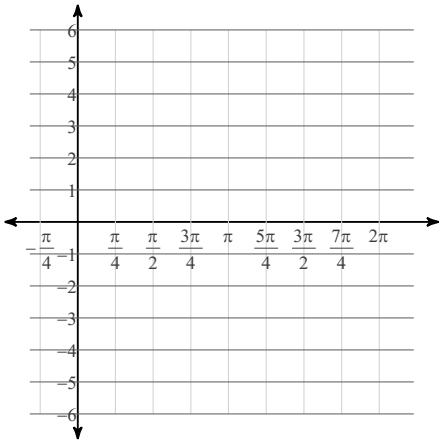
4) $y = 1 + \tan \theta$



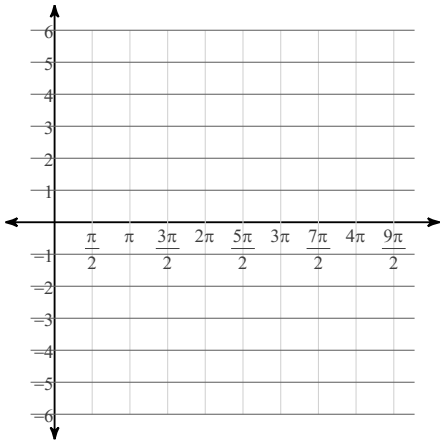
5) $y = \tan\left(\frac{\theta}{2} - \frac{3\pi}{4}\right) - 2$



6) $y = \tan\left(2\theta + \frac{\pi}{2}\right) + 1$

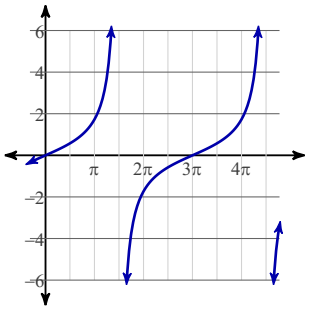


7) $y = \tan\left(\frac{\theta}{3} - \frac{5\pi}{6}\right) + 1$



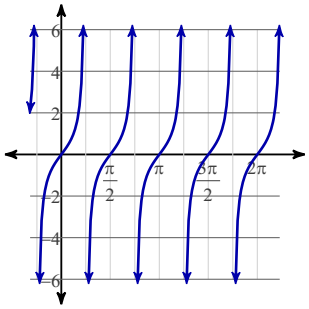
Answers to Graphing Tangent Functions

1)



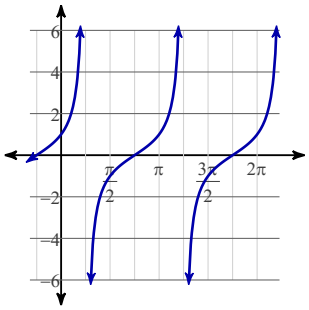
Period: 3π
Phase shift: None
Vert. shift: None

2)



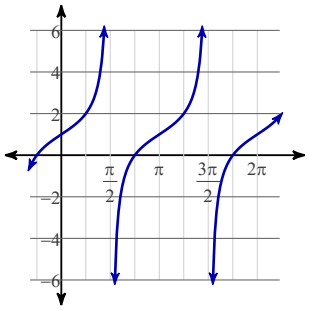
Period: $\frac{\pi}{2}$
Phase shift: None
Vert. shift: None

3)



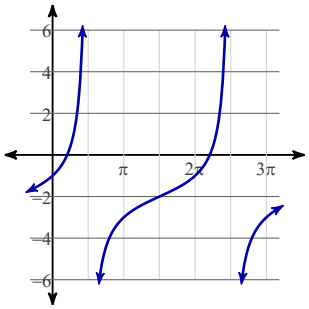
Period: π
Phase shift: Left $\frac{\pi}{4}$
Vert. shift: None

4)



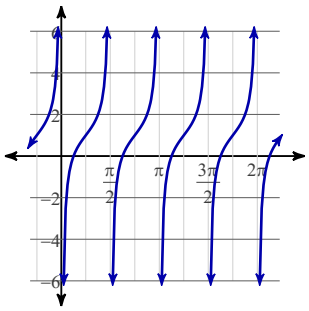
Period: π
Phase shift: None
Vert. shift: Up 1

5)



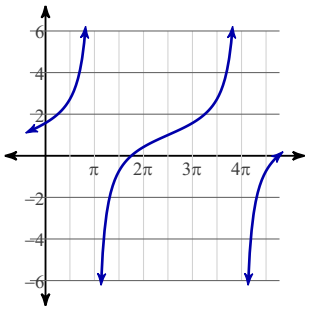
Period: 2π
Phase shift: Right $\frac{3\pi}{2}$
Vert. shift: Down 2

6)



Period: $\frac{\pi}{2}$
Phase shift: Left $\frac{\pi}{4}$
Vert. shift: Up 1

7)



Period: 3π
Phase shift: Right $\frac{5\pi}{2}$
Vert. shift: Up 1