

Trigonometric Graphs #2
Graphs of Sine, Cosine, and Tangent
With Shifts

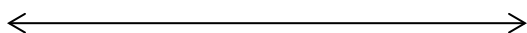
Determine the amplitude or critical points, period and phase shifts or asymptotes. Then graph **one period** of the function.

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

Critical Points: _____

Period: _____

Asymptotes: _____

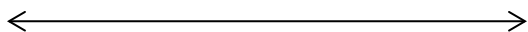


2. $f(x) = 2\cos\left(\pi x - \frac{\pi}{2}\right)$

Amplitude: _____

Period: _____

Phase Shift: _____

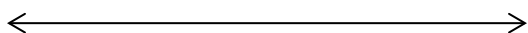


3. $y = -3\sin(\pi x - \pi)$

Amplitude: _____

Period: _____

Phase Shift: _____

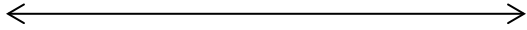


4. $f(x) = \tan \frac{x}{2} + 2$

Critical Points: _____

Period: _____

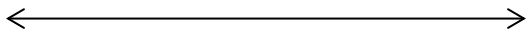
Asymptotes: _____



5. $y = -\sin 2\pi x - 1$

Amplitude: _____

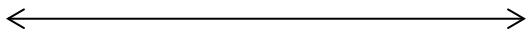
Period: _____



6. $f(x) = 3\cos \frac{x}{2} - 3$

Amplitude: _____

Period: _____

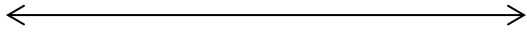


7. $f(x) = \cos\left(\pi x + \frac{\pi}{2}\right) - 2$

Amplitude: _____

Period: _____

Phase Shift: _____

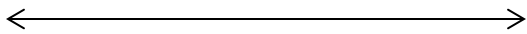


8. $y = \tan\left(\frac{\pi}{4}x - \frac{\pi}{2}\right) + 1$

Critical Points: _____

Period: _____

Asymptotes: _____

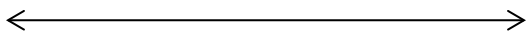


9. $f(x) = -\sin\left(\pi x - \frac{\pi}{2}\right) + 1$

Amplitude: _____

Period: _____

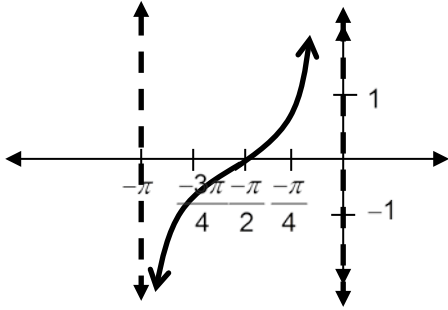
Phase Shift: _____



1. Critical Points: $-1, 1$

Period: π

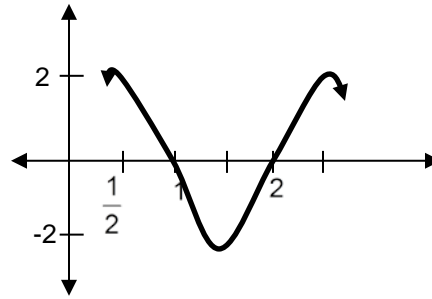
Asymptotes: $x = -\pi$ and $x = 0$



2. Amplitude: 2

Period: 2

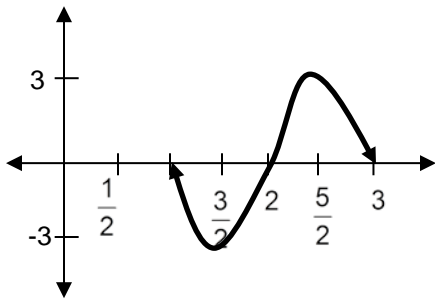
Phase Shift: $\frac{1}{2}$



3. Amplitude: 3

Period: 2

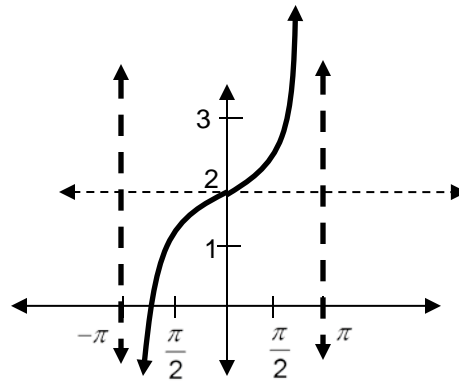
Phase Shift: 1



4. Critical Points: $1, 3$

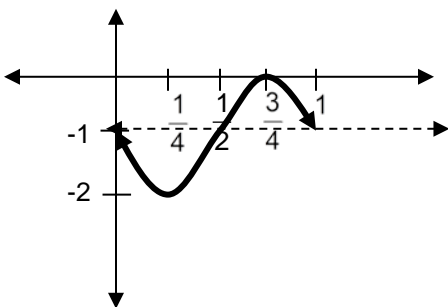
Period: 2π

Asymptotes: $x = -\pi$ and $x = \pi$



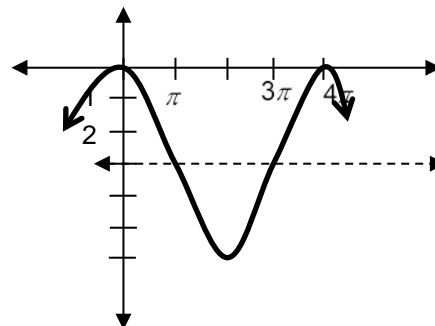
5. Amplitude: 1

Period: 1



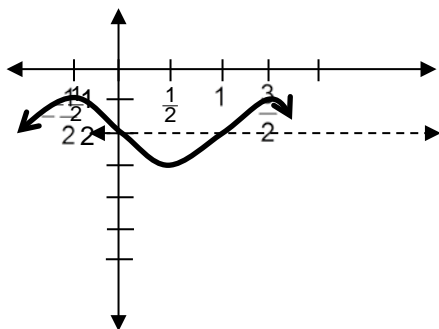
6. Amplitude: 3

Period: 4π



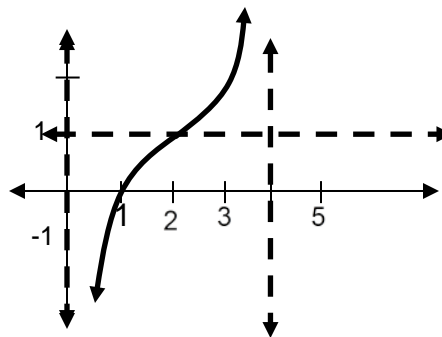
7. Amplitude: 1
Period: 2

Phase Shift: $-\frac{1}{2}$



8. Critical Points: 0, 2
Period: 4

Asymptotes: $x = 0$ and $x = 4$



9. Amplitude: 1
Period: 2

Phase Shift: $\frac{1}{2}$

