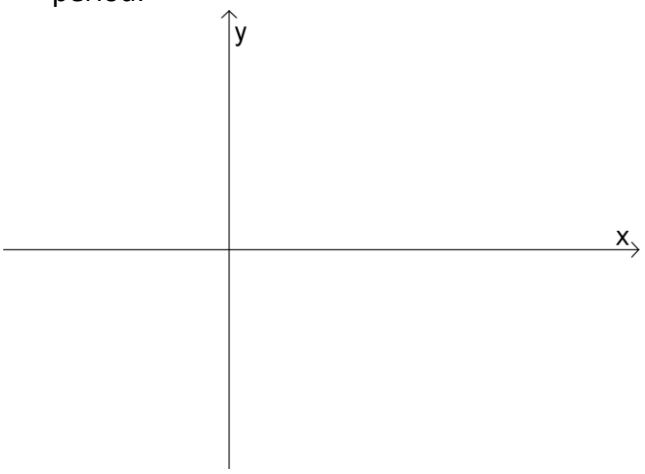
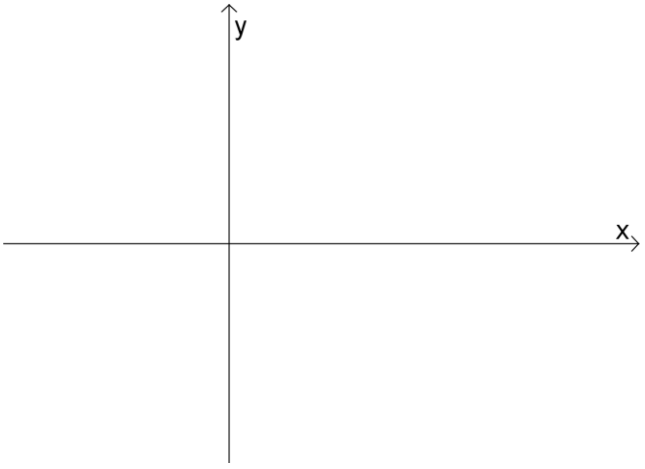
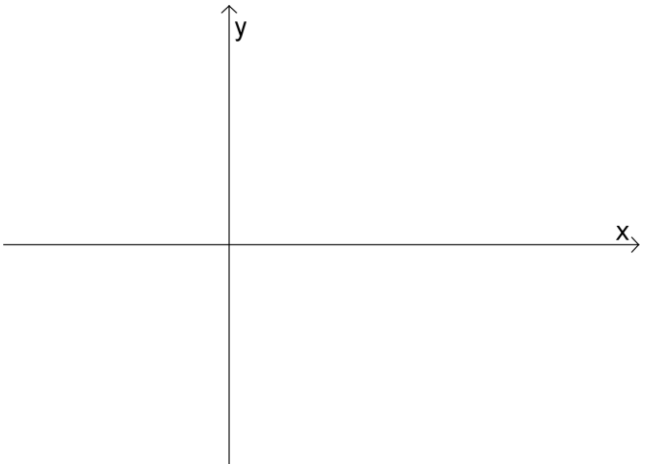
1. Find the amplitude, period, and phase shift of $y = 3\cos\left(x + \frac{\pi}{4}\right) - 2$ and graph one complete period.



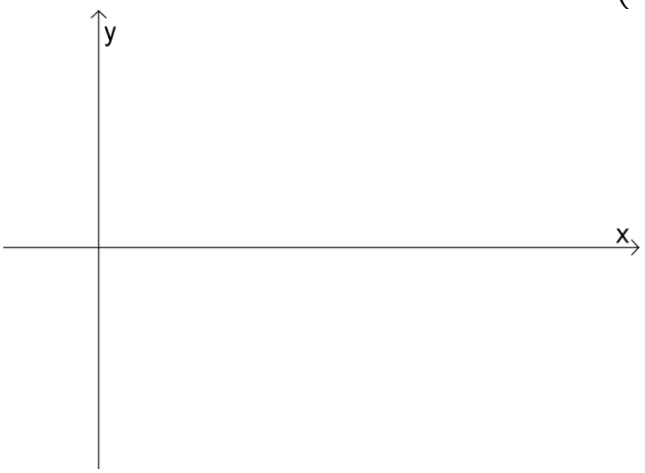
2. Find the amplitude, period, and phase shift of $y = 2\sin\pi\left(x + \frac{1}{2}\right)$ and graph one complete period.



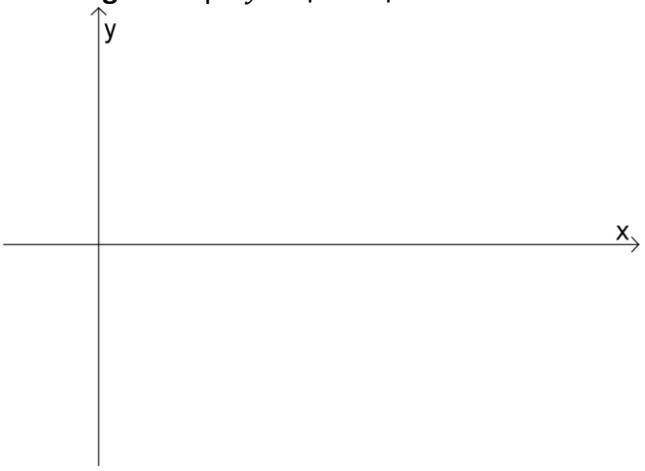
3. Find the period and phase shift of $y = 1 + \csc 2\left(x + \frac{\pi}{2}\right)$ and graph one complete period.



4. Find the period and phase shift of $y = 2\tan\left(2x - \frac{\pi}{3}\right)$ and graph one complete period.

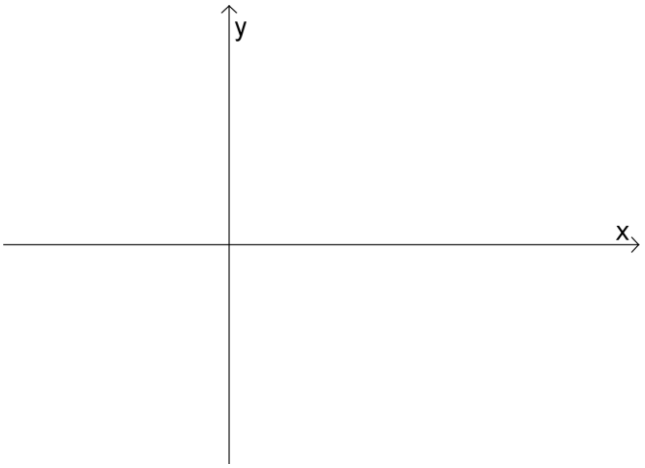


Challenge: Graph $y = |\cos x| \sin 4x$.

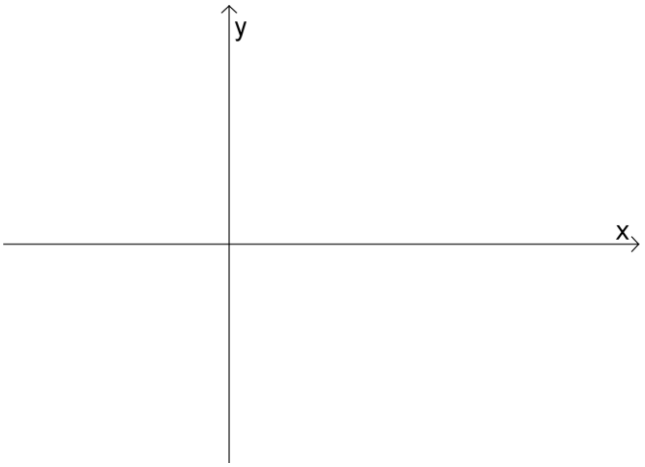


Q: What do you get when you expand $(x-a)(x-b)(x-c)\ldots(x-y)(x-z)$?

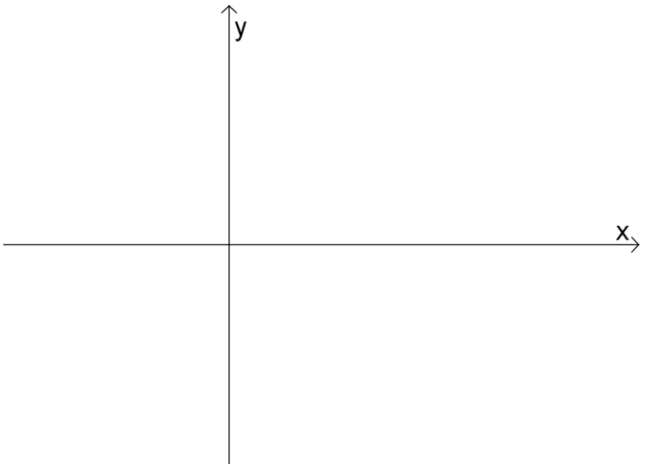
5. Find the amplitude, period, and phase shift of $y = 2 - \sin(3x - \pi)$ and graph one complete period.



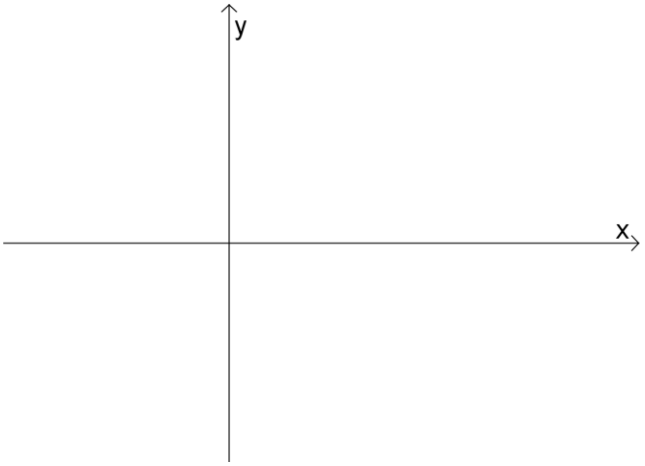
6. Find the amplitude, period, and phase shift of $y = \frac{1}{2}\sin\pi(x+1)$ and graph one complete period.



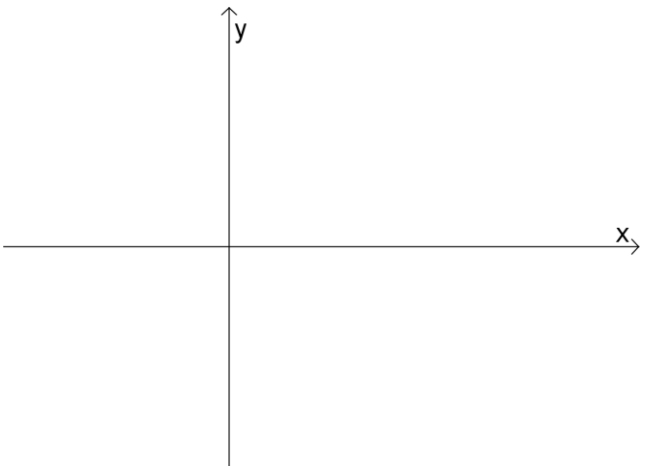
7. Find the amplitude, period, and phase shift of $y = -\frac{2}{3}\cos\left(\frac{1}{2}x\right) + \frac{2}{3}$ and graph one complete period.



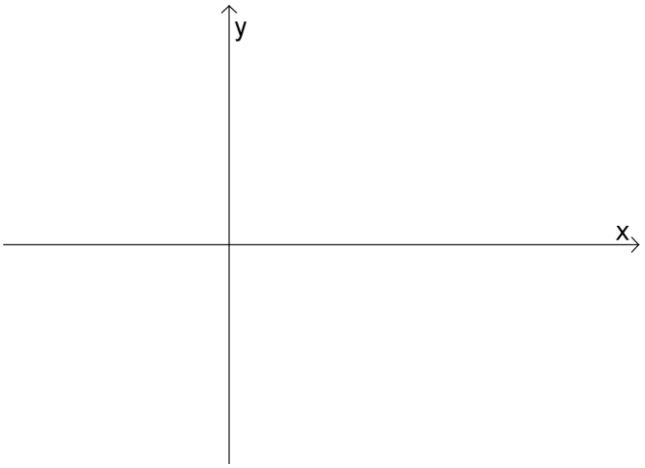
8. Find the amplitude, period, and phase shift of $y = 2\cos(4x+\pi) - 1$ and graph one complete period.



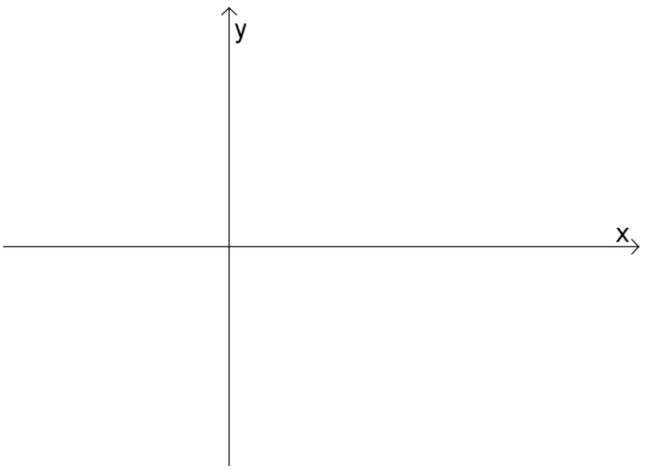
9. Find the period and phase shift of $y = -3\sec(\pi x - 3\pi)$ and graph one complete period.



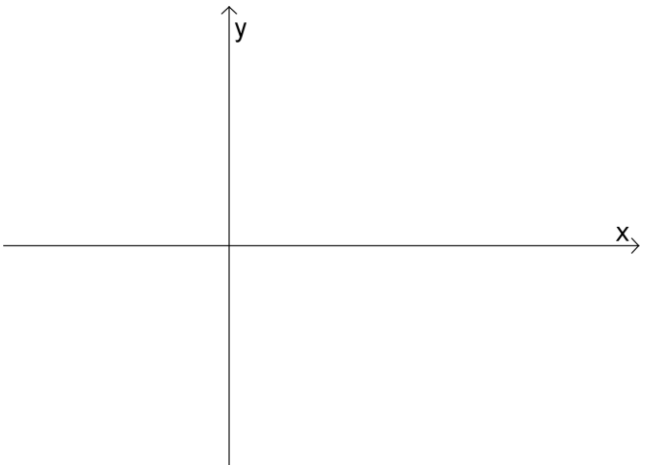
10. Find the period and phase shift of $y = 2 + 2\sec\left(3x + \frac{\pi}{2}\right)$ and graph one complete period.



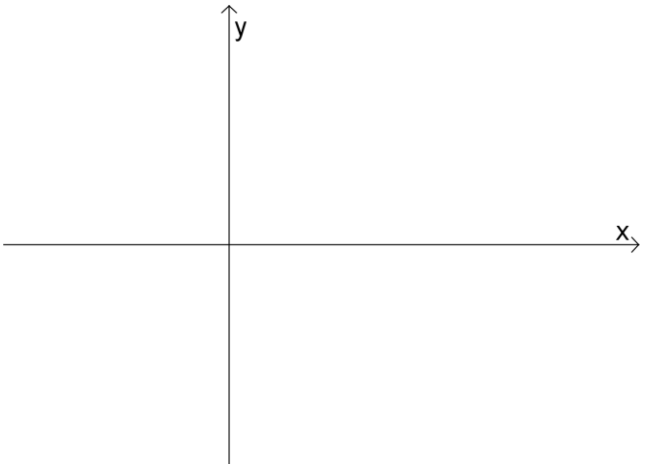
11. Find the period and phase shift of $y = 4\csc\left(2x + \frac{2\pi}{3}\right)$ and graph one complete period.



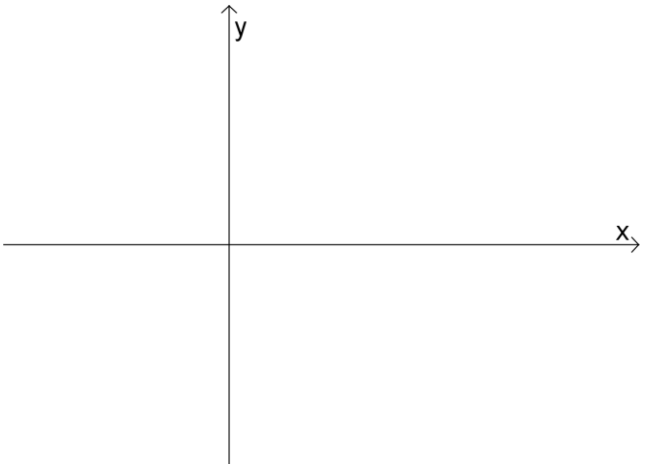
12. Find the period and phase shift of $y = 1 - \csc 2\left(x + \frac{\pi}{4}\right)$ and graph one complete period.



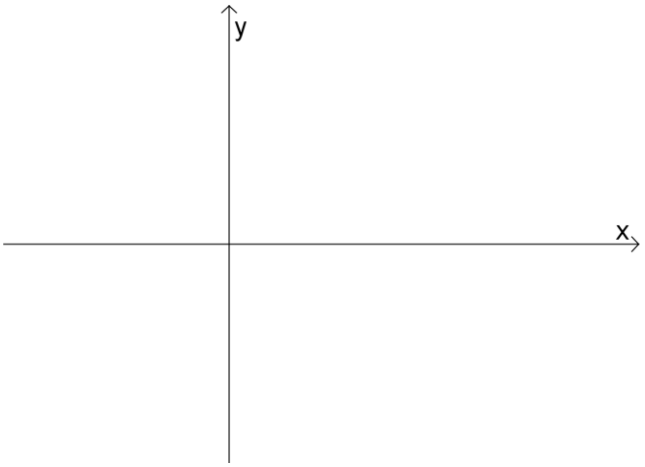
13. Find the period and phase shift of $y = 2\tan\left(\frac{1}{2}x + \pi\right)$ and graph one complete period.



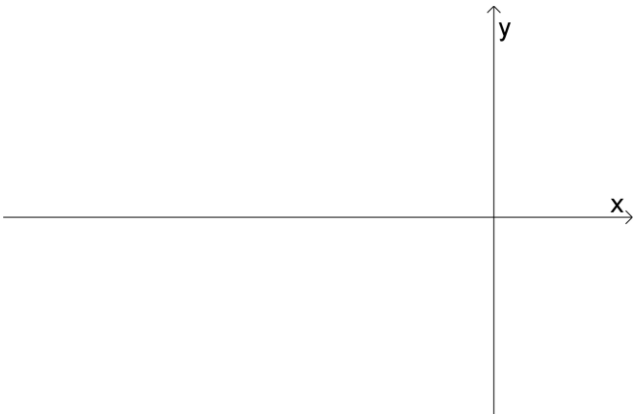
14. Find the period and phase shift of $y = -\frac{1}{2}\tan(3x) + 1$ and graph one complete period.



15. Find the period and phase shift of $y = \cot\frac{\pi}{2}(x-2) - \frac{1}{2}$ and graph one complete period.



16. Find the period and phase shift of $y = -\cot\left(\frac{1}{3}x + \pi\right)$ and graph one complete period.



Optional exercises from the Sullivan book if you'd like more practice:
6.4 (p.407) #33-55 odd
6.5 (p.417) #17-39 odd
6.6 (p.427) #3-13 odd, 19-25 odd