Worksheet: Graph sine and cosine, period changes #3

Graph the original cycle in one color and then fill in the entire grid. Identify the domain, range, amplitude, period, phase shift, and vertical shift.

1) $y = 2\sin 2x + 1$

2) $y = -3\cos 3\left(x - \frac{\pi}{2}\right) - 1$

3) $y = \frac{1}{2}\sin\frac{1}{2}x$

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

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

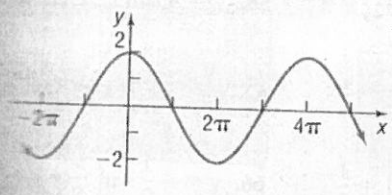
6) $y = \sin(3x + \pi)$

7) $y = 3\sin(2x + 5\pi)$

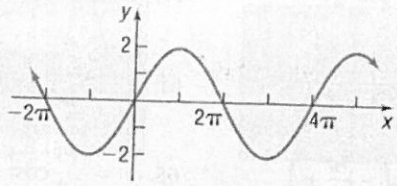
8) $y = -\cos 3x - 2$

9) $y = \sin\left(2x + \frac{4\pi}{3}\right) + \frac{1}{2}$

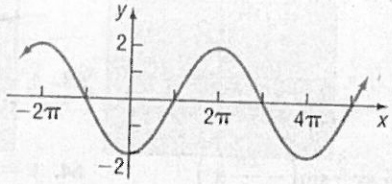
Problems 29–38, match the given function to one of the graphs (A)–(J).



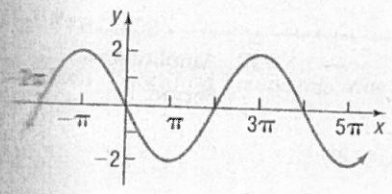
(A)



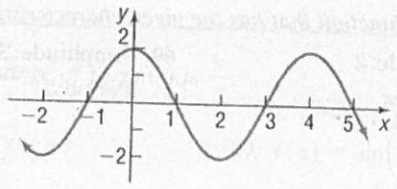
(B)



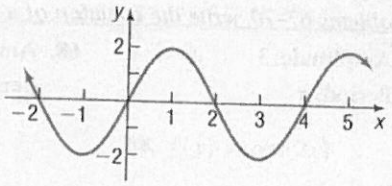
(C)



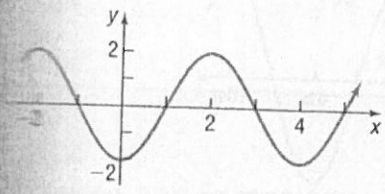
(D)



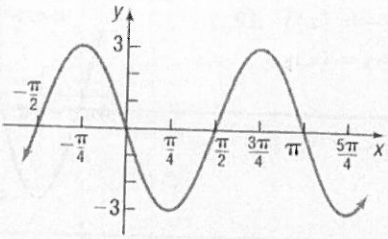
(E)



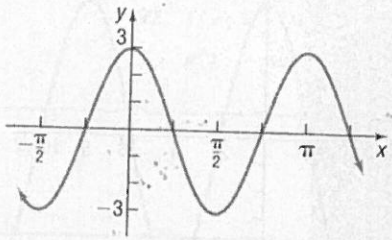
(F)



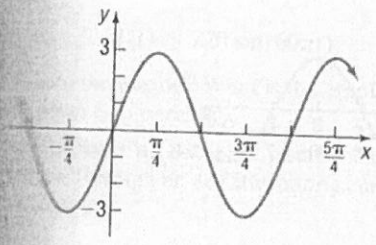
(G)



(H)



(I)



(J)

29. $y = 2\sin\left(\frac{\pi}{2}x\right)$

30. $y = 2\cos\left(\frac{\pi}{2}x\right)$

31. $y = 2\cos\left(\frac{1}{2}x\right)$

32. $y = 3\cos(2x)$

33. $y = -3\sin(2x)$

34. $y = 2\sin\left(\frac{1}{2}x\right)$

35. $y = -2\cos\left(\frac{1}{2}x\right)$

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

37. $y = 3\sin(2x)$

38. $y = -2\sin\left(\frac{1}{2}x\right)$

Problems 39–42, match the given function to one of the graphs (A)–(D).