

13. yes; 6 14. no 15. yes; 20

19. 1 20. 0 21. 0 22. 1

$$\begin{aligned} 25. \sin \pi + \cos \pi &= 0 + (-1) \\ &= -1 \end{aligned}$$

$$\begin{aligned} 26. \sin 2\pi - \cos 2\pi &= 0 - 1 \\ &= -1 \end{aligned}$$

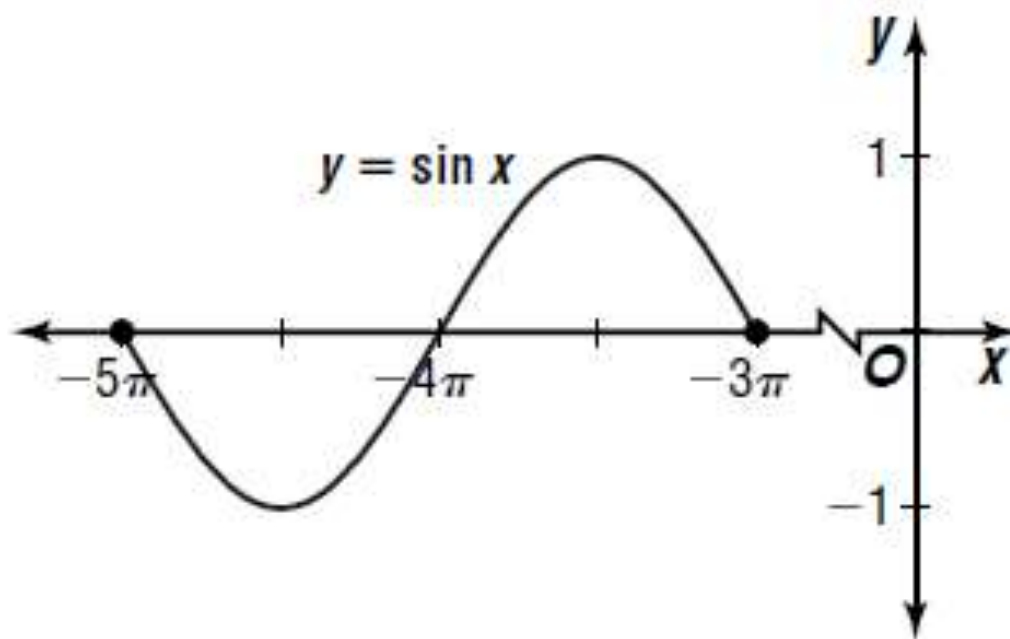
27. $\pi + 2\pi n$, where n is an integer

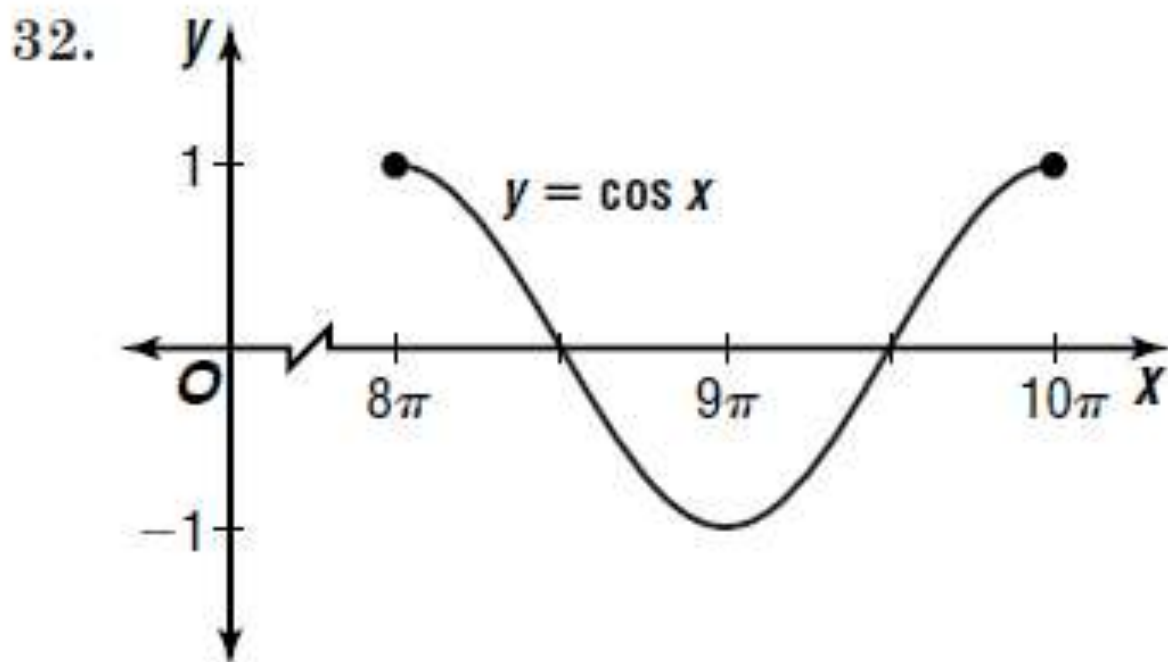
28. $\frac{\pi}{2} + 2\pi n$, where n is an integer

29. $\frac{\pi}{2} + \pi n$, where n is an integer

30. $\theta + 2\pi n$, where n is an integer

31.





37. $y = \cos x$; the maximum value of 1 occurs when $x = 4\pi$, the minimum value of -1 occurs when $x = 5\pi$, and the x -intercepts are $\frac{7\pi}{2}$, $\frac{9\pi}{2}$, and $\frac{11\pi}{2}$.
38. Neither; the graph does not cross the x -axis.
39. $y = \sin x$; the maximum value of 1 occurs when $x = -\frac{11\pi}{2}$, the minimum value of -1 occurs when $x = -\frac{13\pi}{2}$, and the x -intercepts are -7π , -6π , and -5π .