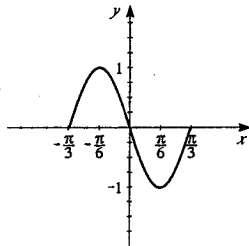


31. $y = \sin(3x + \pi) = \sin 3(x + \frac{\pi}{3})$

amplitude = 1, period = $\frac{2\pi}{3}$,

phase shift = $-\frac{\pi}{3}$



33. (a) amplitude = $a = 4$, period = $\frac{2\pi}{k} = 2\pi$, phase shift = $b = 0$

(b) $y = a \sin k(x - b) = 4 \sin x$

35. (a) amplitude = $a = 3$, period = $\frac{2\pi}{k} = 4\pi$, phase shift = $b = 0$

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

37. (a) amplitude = $a = \frac{1}{2}$, period = $\frac{2\pi}{k} = \pi$, phase shift = $b = -\frac{\pi}{3}$

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