$y = \sin x$

$y = a \sin(bx - c) + d$

period: b — horizontal shift: c

$P = \frac{2\pi}{b}$

$bx - c = 0$ $\qquad$ $bx - c = 2\pi$

#1 $y = \sin 4\theta$

$4x = 0$ $\qquad$ $4x = 2\pi$

$x = 0$ $\qquad$ $x = \frac{\pi}{2}$

$(0, 0)\left(\frac{\pi}{8}, 1\right)\left(\frac{\pi}{4}, 0\right)\left(\frac{3\pi}{8}, -1\right)\left(\frac{\pi}{2}, 0\right)$

#5 $y = \sin\left(x + \frac{5\pi}{6}\right)$

$x + \frac{5\pi}{6} = 0$

$x = -\frac{5\pi}{6}$

$x + \frac{5\pi}{6} = 2\pi$ $\quad \frac{12\pi}{6} - \frac{5\pi}{6}$

$x = \frac{7\pi}{6}$

$\left(-\frac{5\pi}{6}, 0\right)\left(-\frac{\pi}{3}, 1\right)\left(\frac{\pi}{6}, 0\right)\left(\frac{2\pi}{3}, -1\right)\left(\frac{7\pi}{6}, 0\right)$

$-\frac{2\pi}{6}$ $\qquad$ $\frac{4\pi}{6}$

#10 $y = \sin\left(3x - \frac{3\pi}{4}\right)$

$\frac{8\pi}{4} + \frac{3\pi}{4}$

$3x - \frac{3\pi}{4} = 0$

$3x = \frac{3\pi}{4}$

$x = \frac{\pi}{4}$

$\frac{3\pi}{12}$

$3x - \frac{3\pi}{4} = 2\pi$

$3x = \frac{11\pi}{4}$

$x = \frac{11\pi}{12}$

$\left(\frac{\pi}{4}, 0\right)\left(\frac{5\pi}{12}, 1\right)\left(\frac{7\pi}{12}, 0\right)\left(\frac{3\pi}{4}, -1\right)\left(\frac{11\pi}{12}, 0\right)$

$\frac{9\pi}{12}$