

Trigonometry Worksheet: Graph Trigonometric Functions (3)

Graph the trigonometric function given by

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

One cycle is found by solving

$$0 \leq 2x - \frac{\pi}{4} \leq 2\pi$$

$$\Rightarrow \frac{\pi}{8} \leq x \leq \frac{9\pi}{8}$$

| | | | | | |
|---------------------------------------|-----------------|------------------|------------------|------------------|------------------|
| $2x - \frac{\pi}{4}$ | 0 | $\frac{\pi}{2}$ | π | $\frac{3\pi}{2}$ | 2π |
| $\cos\left(2x - \frac{\pi}{4}\right)$ | 1 | 0 | -1 | 0 | 1 |
| x | $\frac{\pi}{8}$ | $\frac{3\pi}{8}$ | $\frac{5\pi}{8}$ | $\frac{7\pi}{8}$ | $\frac{9\pi}{8}$ |
| y | -3 | 0 | 3 | 0 | -3 |

