# mobius

## Sinusoidal Function Parameters (4 Params) - Function to Parameters

Name _____

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**1** What are the phase shift, amplitude, vertical shift, and period of this sinusoidal function?

$$f(x) = -\frac{2}{11}\sin(\frac{6}{5}\pi x + \frac{8}{3}) + \frac{4}{7}$$

**A** Amplitude $= \frac{8}{3}$
Period $= \frac{10}{6}$
Phase Shift $= \frac{2}{11}$ right
Vertical Shift $= \frac{4}{7}$

**B** Amplitude $= \frac{2}{11}$
Period $= \frac{10}{6}$
Phase Shift $= \frac{8}{3}$ left
Vertical Shift $= \frac{4}{7}$

**C** Amplitude $= \frac{2}{11}$
Period $= \frac{10}{6}$
Phase Shift $= \frac{8}{3}\pi$ left
Vertical Shift $= \frac{4}{7}$

**D** Amplitude $= \frac{2}{11}$
Period $= \frac{10\pi}{6}$
Phase Shift $= \frac{8}{3}$ left
Vertical Shift $= \frac{4}{7}$

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**2** What are the period, phase shift, amplitude, and vertical shift of this sinusoidal function?

$$f(x) = -\frac{2}{5}\cos(\frac{2}{3}\pi x + 2\pi) + 4$$

**A** Amplitude $= \frac{2}{3}$
Period $= \frac{10}{3}$
Phase Shift $= 2\pi$ left
Vertical Shift $= 4$

**B** Amplitude $= \frac{2}{5}$
Period $= \frac{6}{2}$
Phase Shift $= 2\pi$ left
Vertical Shift $= 4$

**C** Amplitude $= \frac{2}{5}$
Period $= \frac{6}{2}$
Phase Shift $= 4\pi$ left
Vertical Shift $= 2$

**D** Amplitude $= 4$
Period $= \frac{6}{2}$
Phase Shift $= 2\pi$ left
Vertical Shift $= -\frac{2}{5}$

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**3** What are the phase shift, period, vertical shift, and amplitude of this sinusoidal function?

$$f(x) = -1\sin(\frac{7}{3}\pi x + \frac{3}{7}) + \frac{4}{7}$$

**A** Amplitude $= 1$
Period $= \frac{14}{3}$
Phase Shift $= \frac{3}{7}$ left
Vertical Shift $= \frac{4}{7}$

**B** Amplitude $= \frac{4}{7}$
Period $= \frac{6}{7}$
Phase Shift $= \frac{3}{7}$ left
Vertical Shift $= -1$

**C** Amplitude $= 1$
Period $= \frac{14}{4}$
Phase Shift $= \frac{3}{7}$ left
Vertical Shift $= \frac{7}{3}$

**D** Amplitude $= 1$
Period $= \frac{6}{7}$
Phase Shift $= \frac{3}{7}$ left
Vertical Shift $= \frac{4}{7}$

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**4** What are the amplitude, vertical shift, period, and phase shift of this sinusoidal function?

$$f(x) = \frac{3}{5}\cos(\frac{2}{3}x + \frac{3}{11}\pi) + \frac{5}{2}$$

**A** Amplitude $= \frac{2}{3}$
Period $= \frac{10\pi}{3}$
Phase Shift $= \frac{3}{11}\pi$ left
Vertical Shift $= \frac{5}{2}$

**B** Amplitude $= \frac{3}{5}$
Period $= \frac{4\pi}{5}$
Phase Shift $= \frac{3}{11}\pi$ left
Vertical Shift $= \frac{2}{3}$

**C** Amplitude $= \frac{3}{5}$
Period $= \frac{6\pi}{2}$
Phase Shift $= \frac{3}{11}\pi$ left
Vertical Shift $= \frac{5}{2}$

**D** Amplitude $= \frac{3}{5}$
Period $= \frac{6\pi}{2}$
Phase Shift $= \frac{5}{2}\pi$ left
Vertical Shift $= \frac{3}{11}$

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**5** What are the amplitude, period, phase shift, and vertical shift of this sinusoidal function?

$$f(x) = \frac{6}{7}\sin(\frac{7}{11}x + \frac{5}{11}) + 2$$

**A** Amplitude $= \frac{6}{7}$
Period $= \frac{22\pi}{5}$
Phase Shift $= \frac{5}{11}$ left
Vertical Shift $= 2$

**B** Amplitude $= \frac{6}{7}$
Period $= \frac{22\pi}{7}$
Phase Shift $= \frac{5}{11}\pi$ left
Vertical Shift $= 2$

**C** Amplitude $= \frac{6}{7}$
Period $= \frac{22\pi}{7}$
Phase Shift $= \frac{5}{11}$ left
Vertical Shift $= 2$

**D** Amplitude $= \frac{6}{7}$
Period $= \frac{22\pi}{7}$
Phase Shift $= 2$ left
Vertical Shift $= \frac{5}{11}$

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**6** What are the vertical shift, phase shift, amplitude, and period of this sinusoidal function?

$$f(x) = \frac{8}{3}\cos(\frac{5}{7}x + \frac{4}{5}) + 3$$

**A** Amplitude $= \frac{8}{3}$
Period $= \frac{14\pi}{5}$
Phase Shift $= \frac{4}{5}\pi$ left
Vertical Shift $= 3$

**B** Amplitude $= \frac{8}{3}$
Period $= \frac{14\pi}{5}$
Phase Shift $= \frac{4}{5}$ left
Vertical Shift $= 3$

**C** Amplitude $= \frac{5}{7}$
Period $= \frac{6\pi}{8}$
Phase Shift $= \frac{4}{5}$ left
Vertical Shift $= 3$

**D** Amplitude $= \frac{8}{3}$
Period $= \frac{10\pi}{4}$
Phase Shift $= \frac{4}{5}$ left
Vertical Shift $= 3$

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**7** What are the period, amplitude, vertical shift, and phase shift of this sinusoidal function?

$$f(x) = \frac{6}{11}\cos(\frac{3}{7}x + \frac{8}{3}\pi) + 3$$

**A** Amplitude $= \frac{3}{7}$
Period $= \frac{22\pi}{6}$
Phase Shift $= \frac{8}{3}\pi$ left
Vertical Shift $= 3$

**B** Amplitude $= \frac{6}{11}$
Period $= \frac{6\pi}{8}$
Phase Shift $= \frac{3}{7}\pi$ left
Vertical Shift $= 3$

**C** Amplitude $= \frac{6}{11}$
Period $= \frac{14\pi}{3}$
Phase Shift $= 3\pi$ left
Vertical Shift $= \frac{8}{3}$

**D** Amplitude $= \frac{6}{11}$
Period $= \frac{14\pi}{3}$
Phase Shift $= \frac{8}{3}\pi$ left
Vertical Shift $= 3$

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**8** What are the period, vertical shift, amplitude, and phase shift of this sinusoidal function?

$$f(x) = -\frac{7}{2}\cos(\frac{6}{7}x + \frac{8}{3}) + \frac{2}{5}$$

**A** Amplitude $= \frac{7}{2}$
Period $= \frac{14\pi}{8}$
Phase Shift $= \frac{8}{3}\pi$ left
Vertical Shift $= \frac{2}{5}$

**B** Amplitude $= \frac{7}{2}$
Period $= \frac{14\pi}{8}$
Phase Shift $= \frac{8}{3}$ right
Vertical Shift $= \frac{2}{5}$

**C** Amplitude $= \frac{7}{2}$
Period $= \frac{6\pi}{8}$
Phase Shift $= \frac{8}{7}$ left
Vertical Shift $= \frac{2}{5}$

**D** Amplitude $= \frac{7}{2}$
Period $= \frac{14\pi}{6}$
Phase Shift $= \frac{8}{3}$ left
Vertical Shift $= \frac{2}{5}$

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