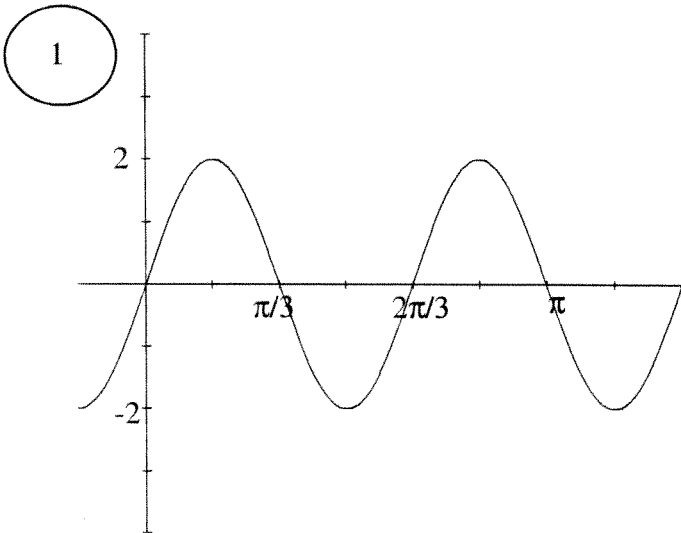


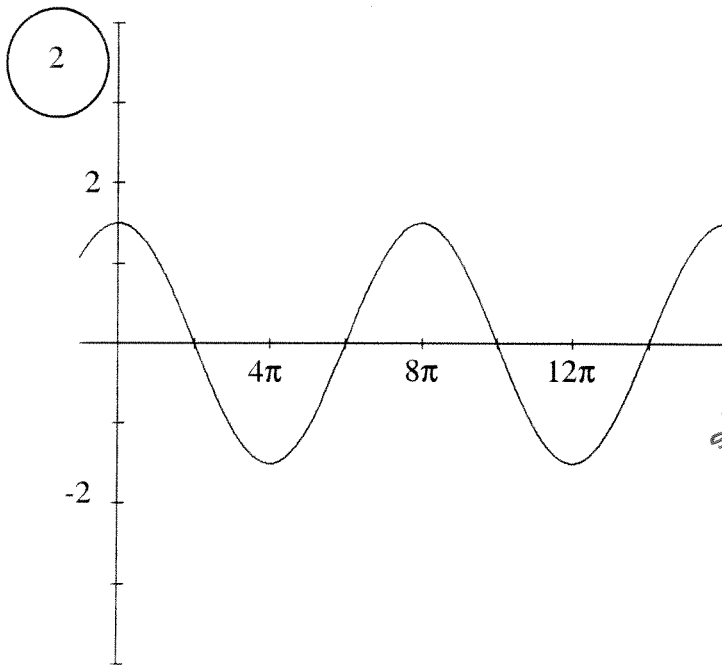
Write one sine and one cosine function for each graph of the form:
 $y = A \sin[B(x - C)] + D$ and $y = A \cos[B(x - C)] + D$



sin x	cos x
Period: $\frac{2}{3}\pi$	Period: $\frac{2}{3}\pi$
Amplitude (A): 2	Amplitude (A) 2
Horizontal Stretch (B): $\frac{2\pi}{B} = \frac{2}{3}\pi$ $B = \frac{2\pi}{\frac{2}{3}\pi} = 3$	Horizontal Stretch (B): $\frac{2\pi}{B} = \frac{2}{3}\pi$ $B = \frac{2\pi}{\frac{2}{3}\pi} = 3$
Phase Shift (C): 0	Phase Shift (C): $\frac{\pi}{6}$
Vertical Shift (D): 0	Vertical Shift (D): 0

sine equation: $y = 2 \sin 3x$
 cosine equation: $y = 2 \cos 3(x - \frac{\pi}{6})$

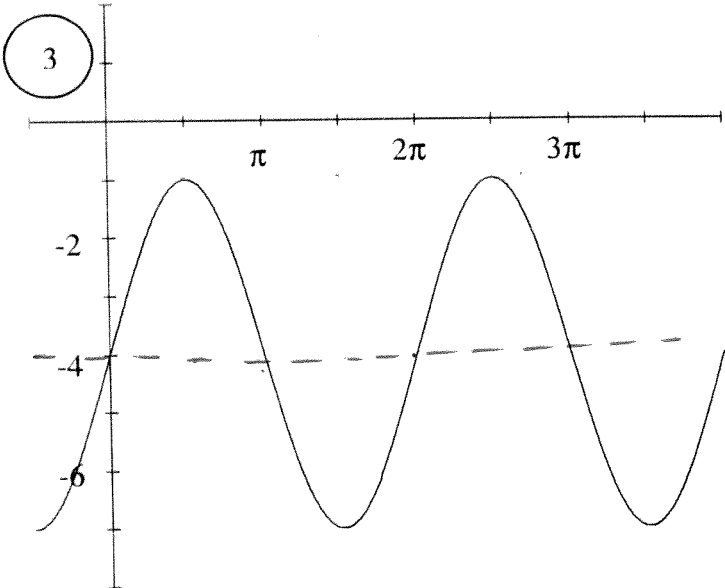
* multiple Answers are possible



sin x	cos x
Period: 8π	Period: 8π
Amplitude (A): $\frac{3}{2}$	Amplitude (A) $\frac{3}{2}$
Horizontal Stretch (B): $\frac{2\pi}{B} = 8\pi$ $B = \frac{2\pi}{8\pi} = \frac{1}{4}$	Horizontal Stretch (B): $\frac{2\pi}{B} = 8\pi$ $B = \frac{2\pi}{8\pi} = \frac{1}{4}$
Phase Shift (C): 2π	Phase Shift (C): 0
Vertical Shift (D): none	Vertical Shift (D): none

sine equation: $y = -\frac{3}{2} \sin \frac{1}{4}(x - 2\pi)$
 cosine equation: $y = \frac{3}{2} \cos \frac{1}{4}x$

* multiple answers are possible



sin x
Period: 2π

Amplitude ($|A|$): 3

Horizontal Stretch (B): 1

Phase Shift (C): 0

Vertical Shift (D): -4

cos x
Period: 2π

Amplitude ($|A|$) 3

Horizontal Stretch (B): 1

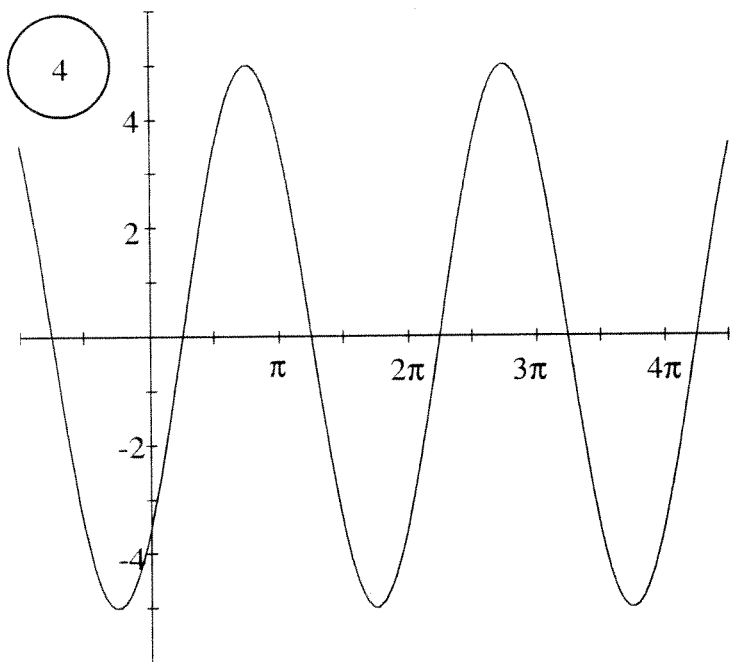
Phase Shift (C): $\frac{\pi}{2}$

Vertical Shift (D): -4

sine equation: $y = 3 \sin x - 4$

cosine equation: $y = 3 \cos(x - \frac{\pi}{2}) - 4$

* multiple Answers are possible



sin x
Period: 2π

Amplitude ($|A|$): 5

Horizontal Stretch (B): 1

Phase Shift (C): $\frac{\pi}{4}$

Vertical Shift (D): none

cos x
Period: 2π

Amplitude ($|A|$) 5

Horizontal Stretch (B): 1

Phase Shift (C): $\frac{3}{4}\pi$

Vertical Shift (D): none

sine equation: $y = 5 \sin(x - \frac{\pi}{4})$

cosine equation: $y = 5 \cos(x - \frac{3}{4}\pi)$

* multiple Answers are possible