Homework #48 **Answers**

From Houghton-Mifflin Precalculus 3rd Edition

p330:

7) $y = -2 \sin x$ amplitude = 2, period = 2π

8) $y = -\cos(2x/5)$ amplitude = 1, period = $(2\pi)/(2/5) = 5\pi$

9) $y = \frac{1}{4} \sin(2/3)x$ amplitude = $\frac{1}{4}$, period = $(2\pi)/(2/3) = 3\pi$

15) $f(x) = \sin x$, $g(x) = \sin(x - \pi)$ g(x) is f(x) shifted π units right

16) $f(x) = \cos x$, $g(x) = \cos(x + \pi)$ g(x) is f(x) shift π units left

17) $f(x) = \cos 2x$, $g(x) = -\cos 2x$ g(x) is f(x) reflected in the x-axis

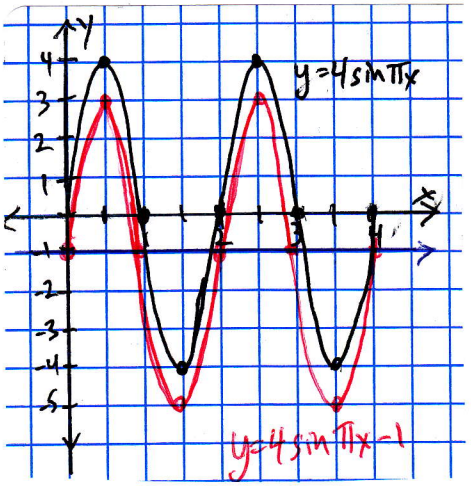
18) $f(x) = \sin 3x$, $g(x) = \sin(-3x)$ g(x) is f(x) reflected in the y-axis

Note: Here we have a rare negative frequency. From this we realize the only significant effect that it has.

32) $f(x) = 4 \sin \pi x$ amplitude = 4, period = $2\pi/\pi = 2$

$g(x) = 4 \sin \pi x - 1$ same amplitude and period but we shift 1 units down.

Graph:



33) $f(x) = 2 \cos x$ amplitude = 2, period = 2π

$g(x) = 2 \cos(x + \pi)$ same amplitude and period but we shift π units left.

Graph: