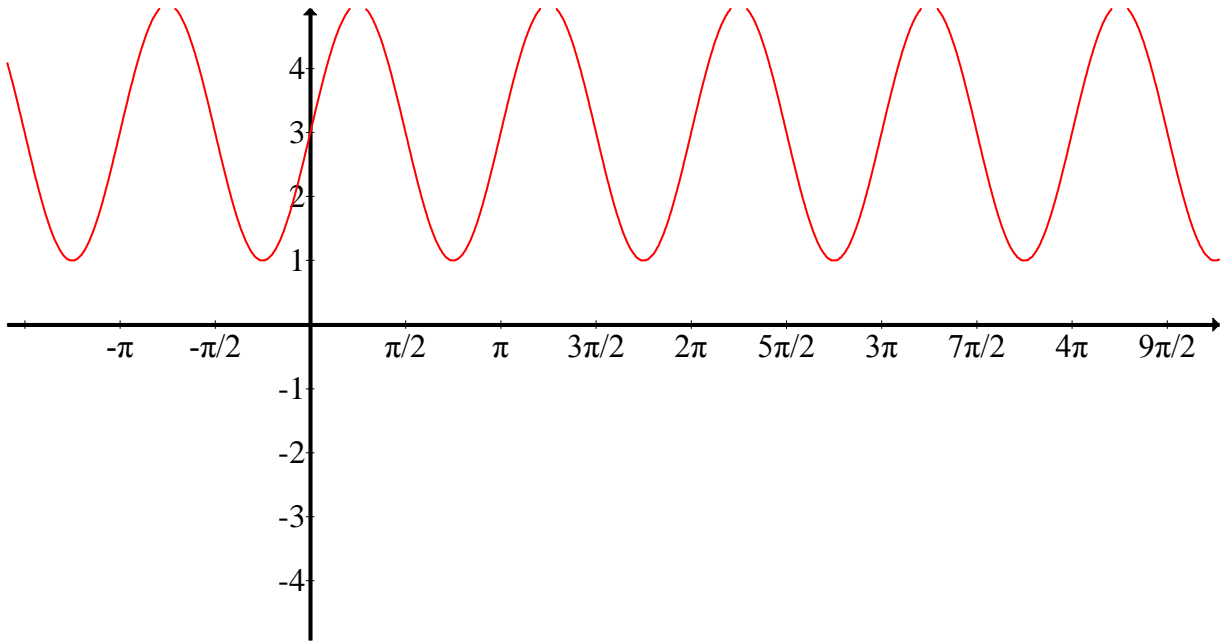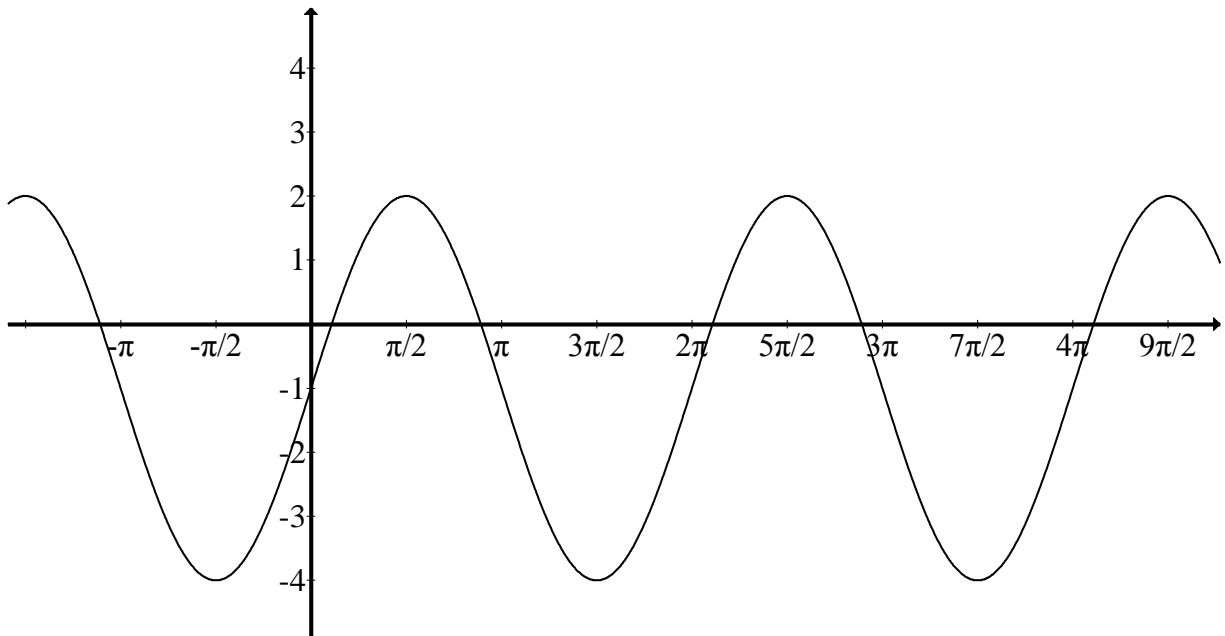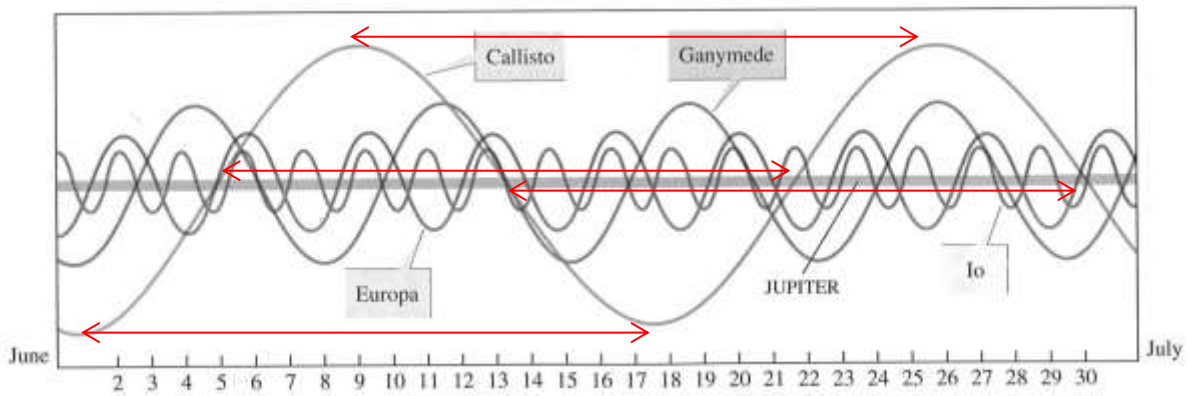1) On the axis below, graph the function $y = 2\sin(2x) + 3$

2) Find an equation for the graph shown below.

$y = 2\cos\left(x - \frac{\pi}{2}\right) - 1$ OR $y = 2\sin(x) - 1$

3) Above is a graph showing the positions in June of four "moons" orbiting Jupiter. Their orbit appears to be sinusoidal in nature.

(a) What is the period of Callisto?

By looking at when the graph repeats itself, it appears to be about 17 days.

(b) Compared to our own Moon orbiting Earth, is Callisto moving faster or slower than our Moon?

Callisto orbits Jupiter in 17 days, while our moon takes about a month (28 days). So Callisto must be literally moving through space faster than our moon is in order to make the proper distance in the proper time.