Physics 1C: Reading Quiz #1 (Chapter 12)

1. An object's position is expressed in units of meters (m). What are the units of velocity and acceleration? What are the units of period and frequency?

2. The position vs time graph, $x(t)$, depends on amplitude, frequency, and phase. How does $x(t)$ change if the amplitude is doubled?

(a) it expands in the $+x$ and $-x$ directions
(b) it narrows in the $+x$ and $-x$ directions
(c) it shifts along the t direction

3. Suppose a mass on a spring is moving according to simple harmonic motion. As it passes through the equilibrium point, which energy is highest?

(a) the potential energy U
(b) the kinetic energy K
(c) the potential and kinetic energy are equal

4. Suppose you swing a yo-yo back and forth like a simple pendulum. If you double the length of string, what happens to the period?

(a) it is doubled
(b) it remains the same
(c) it decreases by a factor of $\sqrt{2}$
(d) it increases by a factor of $\sqrt{2}$