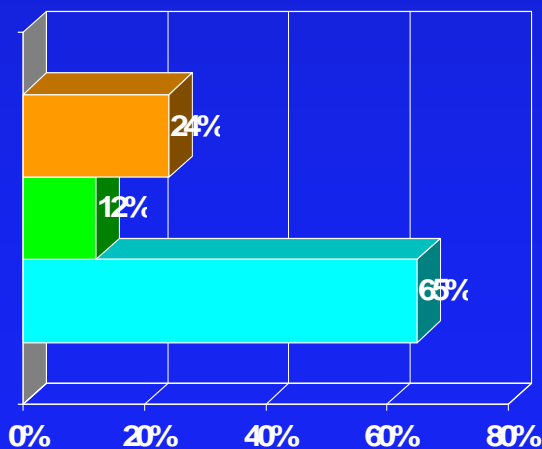


Preflight 3+4

A mass on a spring oscillates back & forth with simple harmonic motion of amplitude A . A plot of displacement (x) versus time (t) is shown below. At what points during its oscillation is the total energy ($K+U$) of the mass and spring a maximum? (Ignore gravity).

1. When $x = +A$ or $-A$ (i.e. maximum displacement)
2. When $x = 0$ (i.e. zero displacement)
3. The energy of the system is constant ← CORRECT



The energy changes from spring to kinetic but is not lost.

