

PHY121 Summer 2018

Pre-work for Wednesday 6/6

1. If you double the amplitude of a harmonic oscillator, what happens to its period? What about the maximum speed?
2. If you double the spring constant of a harmonic oscillator, what happens to its frequency?
3. A magnesium atom (≈ 24 proton masses) in a crystal is measured to oscillate with a frequency of 10^{13} Hz. What is the effective spring constant of the forces holding the atom in the crystal?