

1. (HRK Chapter 1) The period of oscillation of a nonlinear oscillator depends on the mass m , with dimensions of M; a restoring force constant k with dimensions of $\text{ML}^{-2}\text{T}^{-2}$, and the amplitude A , with dimensions of L. What should the period of the oscillation be proportional to?
2. (Openstax Chapter 1) The speed of sound is measured to be 342 m/s on a certain day. What is this in km/h?
3. (Openstax Chapter 1) (a) A car speedometer has a 5.0% uncertainty. What is the range of possible speeds when it reads 90km/h? (b) Convert this range to miles per hour. (1 km=0.6214 mi)