

PHY121 Summer 2018

Pre-work for Tuesday 5/22

1. Name five specific applications of physics to other areas of science (e.g. chemistry, biology, geology, astronomy, psychology, engineering, astrology). [Read Feynman Ch. 3]
2. Answer the following:
 - (a) If a car is traveling westward, can its acceleration be eastward? Explain.
 - (b) If the velocity of a particle is zero, can the particles acceleration be zero? Explain.
 - (c) You throw a ball upward in the y direction with an initial velocity of +10 m/s.
 - i. What is its velocity at its highest point?
 - ii. What is its acceleration at this point?
 - iii. What is its velocity at the point where it returns to the ground?
 - iv. What is its acceleration at this point?
3. A particle moves along the x axis according to $x = 5 + 6t - 2t^2$, where x is in meters and t is in seconds. At $t = 3.00$ s, find:
 - (a) Its position.
 - (b) Its velocity.
 - (c) Its acceleration.