

Speed, Velocity, Acceleration and Displacement

Problem Set 1

Do Not Write or Fold This Paper

- 1) A car moves at 50mi/hr for 1/2hr and then at 60mi/hr for 2 hr.
 - a) How far did it go?
 - b) What was its average velocity for the entire trip?
- 2) An airplane whose air speed is 500mi/hr covers a distance of 1000miles in 2.5hr.
 - a) How strong was the head wind against it?
- 3) How long does it take an echo to return to a man standing 300ft. from a cliff?
(Sound travels 1100ft/s at sea level)
- 4) A pitcher takes 0.1s to wind up and throw a baseball, which leaves his hand at a velocity of 90ft/s. What is the acceleration of the baseball while being thrown?
- 5) A car comes to a stop in 6s from a velocity of 30ft/s.
 - a) What is its acceleration?
 - b) At the same acceleration how long would it take to come to a stop from a velocity of 40ft/s?
- 6) A motorcycle reaches a velocity of 50ft/s, what would be the starting velocity if it took 4s with an acceleration of 10ft/s/s?

