

12 PHYSICS
ASSIGNMENT #1

1. A ball thrown vertically upward passes the same height, h , at 2.0 s and 10 s on its way up and down respectively. Calculate h .
2. A family drives from Saint John, New Brunswick, to Moncton. Assuming a straight highway, this part of the drive has a displacement of 136 km [E 32.1 degrees N]. From Moncton, they drive to Amherst, Nova Scotia. The second displacement is 51.9 km [E 25.9 degrees S]. The total drive takes 2.5 h to complete.
 - a) Calculate the average velocity of the family's vehicle.
 - b) Calculate the average speed of the family's vehicle.
3. A car is moving with a velocity of 15 m/s [E]. It makes a turn steadily in 5.0 s so that the velocity is 12 m/s [E 25 degrees N]. Determine the average acceleration of the car.
4. A cyclist moves with a constant acceleration, covering the distance between two points in 6.00 s. The distance between these two points is 70.0 m. Her speed at the second point is 15.0 m/s. Calculate her acceleration and the speed at the first point.