

One-Dimensional Motion Example Problems – Worksheet III

1. A car drives 40 miles east, turns around, and then drives 30 miles west.
 - (a) Find the distance traveled by the car.

 - (b) Find the car's displacement.

2. Assuming that the trip described in Problem 1 takes 2 hours, determine the following:
 - (a) The average speed of the car.

 - (b) The average velocity of the car.

3. A bus travels 280 km south along a straight path with an average velocity of 80 km/h to the south. The bus stops for a 30 minute break, then travels 140 km south with an average velocity of 70 km/h to the south.
 - (a) How long does the total trip last?

 - (b) What is the average velocity for the total trip?

4. A car traveling at 7 m/s accelerates uniformly at 2.5 m/s^2 to reach a speed of 12 m/s. How long does it take for the acceleration to occur?