Problem set: [2017-01-12]

1. Alice drove 200 miles in 4 hours. Her average speed was 60 mph for the the first 3/4 of her journey. How long did she take to drive the remaining 1/4 of her journey?

2. Points A and B are 120 miles apart. Al traveled from A to B at an average speed of 60 mph. On the return trip from B to A, his average speed was 30 mph. Find Al's average speed for the entire round trip.

3. Imagine a two lane highway with one lane East bound and the other lane West bound. Car 1 is headed East at a constant speed of 60 mph. Car 2 is headed West at a constant speed of 90 mph. Points A and B on this highway are 600 miles apart. At the instant Car 1 passes point A, Car 2 passes point B.

   a) When are the cars 300 miles apart?

   b) When do the cars pass each other?

   c) When are the cars 1200 miles apart?

4. A police officer is pursuing a robber. The officer is driving at a constant speed of 120 mph, the robber at a constant speed of 90 mph. When observed at 1:00 PM, the robber was 30 miles ahead of the police officer. At what time does the police officer catch up to the robber?

5. John passed Place A at 1:00 PM driving at a constant speed of 60 miles per hour. Bob, who was driving a constant speed of 90 miles per hour to catch up to John, passed Place A sometime later. If Bob caught up with John at 1:15 PM, at what time did Bob pass place A?