

Motion 2

Solve each problem. Show your Work.

1. Two planes leave at 9 AM from airports that are 2700 miles apart and fly towards each other at speeds of 200 mph and 250 mph. At what time will they pass each other?
2. Driving his car at 50 mph, Jose can cover a certain distance in 20 minutes less than when he drives at 45 mph. Find that distance.
3. Michael drove to a friend's house at a rate of 40 mph. He came back by the same route, but at a rate of 45 mph. If the round-trip took 4 hours, what is the distance Michael traveled to visit his friend?
4. John traveled north from Miami at an average speed of 50 mph. Two hours after he left, Sharon left from Miami traveling in the same direction at an average speed of 55 mph. How long will it take Sharon to catch up with John?
5. Two airplanes depart from an airport traveling in opposite directions. The second airplane is 200 miles per hour faster than the first. After 2 hours they are 1100 miles apart. Find the speeds of the airplanes.
6. Two steamers leave a port on a river at the same time, traveling in opposite directions, each traveling 22 miles per hour. How long will it take for them to be 110 miles apart?

7. A train leaves Little Rock and travels north at 85 kilometers per hour. Another train leaves one hour later and travels north at 95 kilometers per hour. How long after the first train leaves do the trains meet? How far did the trains travel?
8. A train leaves Little Rock and travels north at 85 kilometers per hour. Another train leaves at the same time and travels south at 95 kilometers per hour. How long will it take before they are 315 kilometers apart?
9. Joey and Mark go on vacation and travel in opposite directions. Joey leaves the house at 8:00 am and averages 35 mph. Mark leaves at 9:00 am and averages 40 mph. At what time will they be 225 miles apart?
10. Atlanta and Cincinnati are 440 miles apart. John leaves Cincinnati for Atlanta while Pat leaves Atlanta for Cincinnati. John drives 32 mph faster than Pat. How fast is Pat driving if they pass each other in 5 hours?
11. St. Louis and Portland are 2,060 miles apart. A small plane leaves Portland traveling toward St. Louis at an average speed of 90 mph. Another plane leaves St. Louis at the same time, traveling toward Portland, averaging 116 mph. How long will it take for them to meet?

Answers: 1. 3 PM 2. 150 miles 3. ~84 miles 4. 20 hours 5. 175 mph; 375 mph

 6. 2.5 hrs 7. 9.5 hrs; 807.5 mi 8. 1hr 45min 9. 2 hrs 32 min

 10. 28 mph 11. 10 hrs