

Name: \_\_\_\_\_

M\$3A Motion Problems Sheet

- 1) A man traveled a distance of 960 kilometers by ship to an island. He returned by plane. The rate of the plane was 20 times the rate of the ship. He spent 42 hours on the trip. Find the rate of the ship and the rate of the plane.
- 2) A motorboat can travel at 10 miles per hour in still water. If it can travel 60 miles downstream in four-fifths of the time it takes to travel 50 miles upstream, find the rate of the current.
- 3) The rate at which a jet plane is traveling exceeds twice the rate at which a cargo plane is traveling by 100 miles per hour. The jet plane can fly 1800 miles in the same time that the cargo plane requires to fly 750 miles. Find the rate of each plane.
- 4) The rate of a motorboat in still water is 10 mph. The boat traveled 24 miles upstream and returned the same distance downstream. The round trip required 5 hours. Find the rate of the current.
- 5) Flying with a wind, a plane traveled 2400 miles in 5 hours. Flying against the same wind, the plane covered only seven-eighths of this distance in the same time. Find the speed of the plane in still air and the speed of the wind.
- 6) A plane flew a distance of 2640 miles in 5 hours. During the first 3 hours of the flight, it flew with a wind a distance of 1650 miles. During the remainder of the flight, the plane flew against a wind whose average speed was 5 mph less than what it had been during the first part of the flight. Find the rate of the plane in still air and the original speed of the wind.
- 7) Mr. Wilson drove a distance of 480 miles at a certain rate of speed. He covered the first 300 miles in 2 hours more time than was required for the rest of the trip. Find the rate of speed at which he was traveling.
- 8) Mr. Blackstone drove from his city home to his country home, stopping for lunch on the way. Before lunch, he traveled 80 miles farther than he did after lunch. Before lunch, he averaged 40 mph; after lunch, he averaged 50 mph. His traveling time, not including the time spent for lunch, was six and one-half hours. Find the number of miles he drove before lunch and also after lunch.
- 9) Sean started to cross a lake by motorboat. After he had traveled 15 miles, the motor failed and he had to row the remaining 6 miles to shore. His average speed by motor was 4 miles per hour faster than his average speed while rowing. If the entire trip took 5 and one-half hours, what was Sean's average speed while rowing?
- 10) At 9:00 a.m. Beth started from home on a hike to a mountain 12 miles away. After reaching the mountain, she took 1 hour for lunch and then returned over the same route, arriving home at 5:00 p.m. If her average rate was 1 mile per hour less than her rate going, find her rate on the return trip.