

# EXTRA PRACTICE — Exercises

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## Unit VIII – Quadratic Equations

### Part C – Problem Solving With Quadratic Relations

#### **Lesson 4 – “Motion” Problems**

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For each of the following story problems, answer the four analysis questions to find the equation needed to solve. Then solve and use common sense to check your answers.

1. It took a crew  $2\frac{2}{3}$  hours to row six kilometers down stream and back again. If the rate of the stream was three kilometers per hour, what was the rowing rate of the crew in still water?
2. The rate of the current for the length of a popular boating route is two miles per hour. In order for a canoeist to travel three miles upriver and then return in a total of four hours, how fast must the canoe travel in still water?
3. During the first part of a trip, a motorcyclist travels fifty miles at a certain speed. For the next eighty miles, the rate is ten miles per hour slower. Total time for the trip is three miles per hour. What is the speed on each part of the trip?
4. Sandi’s Saab travels two hundred eighty miles at a certain speed. If the car had gone five miles per hour faster, the trip would have taken one hour less time. Find Sandi’s speed.
5. The Hudson River flows at a rate of three miles per hour. A patrol boat travels sixty miles upriver and returns in a total time of nine hours. What is the speed of the boat in still water?

