Section 6.4 – Motion and Percentage Problems

Problem Set 1

1. Going against the current, a boat makes a 2 hours to travel between two cities. The same trip with the current takes 1.2 hours. Find the speed of the current and the boat.
2. A company needs to make a copper alloy containing 50% copper. How much pure copper do they need to add to an alloy containing 35% copper to make 500 g of the required mixture?
3. John has a mixture of quarters and dimes in his pocket. If he has a total of 10 coins and their total value is $1.45, how many of each kind of coin does he have?
4. A stock broker invests $10,000 in two stocks. At the end of the year, one of the investments got a 4% return, the other got an 8% return. If the two stocks togethe earned $660, how much was invested in each?
5. A nurse is preparing a salt solution. She needs the solution to be 2% salt. How much pure water should she mix with a 5% solution to get 500 ml of a 2% solution?
6. It takes a boater half an hour to paddle 8 miles going against the current. The return trip took thirty-five minutes with the current running at twice its original speed. What was the speed of the boat?
7. A bank has two different kinds of CD accounts. One earns 4.5% intesrest; the other earns 5.5%. If someone has $12,000 to put in the accounts and has to earn a 5.2% return, how much should go in each type of CD account?
8. A school is selling two kinds of raffle tickets, one for $1 and one for $5. If the school sold 550 tickets and made a total of $1,530, how many of each kind of ticket did they sell?

