

Section 6.4 – Motion and Percentage Problems

Problem Set 2

1. A plane flies between two cities. When it flies against the wind, the trip takes 3 hours. When it flies with the wind, it only takes 2.5 hours. If the distance between the cities is 1425 miles, how fast was the plane traveling and what was the wind speed?
2. A company needs a solution that's 8% potassium chloride (a kind of salt). How much of a 5% solution has to be combined with a 20% solution to make 100 ml of the required 8% solution?
3. Jessica has a mixture of dimes and quarters. If she has a total of 130 coins and their total value is \$28, how many of each coin does she have?
4. Two kinds of investments ear different returns, 4% and 7%. If an investor invested \$5,000 and got a \$250 return. How much did the investor put in each type of investment?
5. How many millileters of a 32% acid solution have to be added to 100 millileters of a 15% solution to get a 20% solution?
6. It takes a boater an hour to paddle 12 miles going against the current. The return trip took an hour and forty-five minutes. What was the speed of the boat?
7. A speed boat traveled 115.5 miles downstream in 1.75 hours. It took the same boat 2.5 hours going back upstream to reach a dock 22 miles past its starting point. What was the speed of the current?
8. An airline sells two classes of tickets, coach and first class. A coach class seat costs \$224 and a first-class seat costs \$450. If a plane has 120 seats and the entire plane costs \$31,400 to fill, how many of each kind of seat does the plane have?