Section A.8

Problem Solving - Finish

Math 1051 - Precalculus I
How much pure water must be added to 4 gallons of a 30% acid solution to produce a 25% solution?
How much pure water must be added to 4 gallons of a 30% acid solution to produce a 25% solution?

Ans: .8 gallons
Sue leaves home at 3 pm traveling at 30 mph. Elana leaves the same place at 4 pm and follows that same route but at 50 mph. At what time will Elana catch up with Sue?
Keisha leaves at 3 pm driving north at 50 mph. Matt leaves the same place at 4 pm traveling east. At 11:12 pm they are 500 miles apart. How fast was Matt driving?
Keisha leaves at 3 pm driving north at 50 mph. Matt leaves the same place at 4 pm traveling east. At 11:12 pm they are 500 miles apart. How fast was Matt driving?
A motorboat heads upstream on a river that has a current of 3 mph. The trip upstream takes 5 hours, and the return trip takes 2.5 hours. What is the speed of the motorboat? (Assume that the motorboat maintains a constant speed relative to the water)
Matt and Samara just got married and want to paint the living room of their new apartment. Working alone, Matt could do the job in 3 hours. Working alone, Sam could do the job in 4 hours. How long will it take them to do the job if they work together?
Matt and Samara cannot agree on painting the room. He wants to, she does not. Both being thickheads, he starts painting the room and she follows him around with paint remover taking off the paint. If he can paint the room in 3 hours and she can remove all the paint in 4 hours, what happens?
This is sometimes called the Titanic Problem.
An open box is to be constructed from a rectangular piece of sheet metal by removing a square of side 1 foot from each corner and turning up the edges. The length of the rectangle is twice the width. If the box is to hold 4 cubic feet, what should be the dimensions of the sheet metal?
An open box is to be constructed from a rectangular piece of sheet metal by removing a square of side 1 foot from each corner and turning up the edges. The length of the rectangle is twice the width. If the box is to hold 4 cubic feet, what should be the dimensions of the sheet metal?
An open box is to be constructed from a rectangular piece of sheet metal by removing a square of side 1 foot from each corner and turning up the edges. The length of the rectangle is twice the width. If the box is to hold 4 cubic feet, what should be the dimensions of the sheet metal?
Read section A.9 before next lecture.