Supplements for Math 260S Lab Hour
Applications

Mixture Applications

- In a chemistry class, 8 liters of a 4%-saline solution must be mixed with a 13% solution to get a 6% solution. How many liters of the 13% solution are needed?
- Martha has almonds that sold for $10 a pound and cashews that sold for $8 a pound. How much of each type should be used to make a 50-lb mixture that sells for $8.80 per pound?

Speed Applications

- The speed of a current is 6 mph. If a boat travels 98 miles downstream in the same time that it takes to travel 49 miles upstream, what is the speed of the boat in still water?
- An express train and a local train leave a station at the same time (on separate tracks) and head for a town 50 miles away. The express travels twice as fast as the local and arrives 1 hour ahead of the local. Find the speed of each train.
- Alicia travels 450 miles at a certain speed. If the car had gone 15 mph faster, the trip would have taken 1 hour less. Find Alicia's speed.

Work Applications

- Working together, Ricardo and Jeremy can complete a job in 6 hours. It would take Ricardo 9 hours longer than Jeremy to do the job alone. How long would it take Jeremy alone?
- Two pipes can fill a large tank in 10 hours. One of the pipes, used alone, takes 15 hours longer than the other to fill the tank. How long would each pipe take to fill the tank alone?