Math 150 Lecture Notes
Applications Involving Equations

Application-Solving Process:

1. Identify the variable(s).
2. Express all unknown quantities in terms of the variable(s).
3. Set up an equation (or model) that expresses a relationship.
4. Solve the equation and check the answer.

Example 1: A pot contains 6 gallons of brine (salt water) at a concentration of 120 ounces per gallon. How much of the water should be boiled off to increase the concentration to 200 ounces per gallon?

Example 2: John, Jerry, and Sue have been hired to paint sheds. Working together, they can paint a shed in 40% of the time it takes Jerry alone. It takes John 4 hours to paint a shed alone, and it takes Sue one hour longer than it takes Jerry. How long does it take Jerry to paint a shed alone?

Example 3: Keisha drove from San Bueno to Junction, a distance of 250 miles. She increased her speed by 10 miles per hour for the trip from Junction to Tuno, a distance of 360 miles. If the total trip took 11 hours, what was her speed from San Bueno to Junction?