Section 2.8 Mixture and Distance Problem Solving

# Objective 1: Solving Mixture Problems

Mixture problems involve two or more different quantities being combined to form a new mixture. It is often helpful to use a table to organize the information presented in the problem.

a. How much of an alloy that is copper should be mixed with ounces of an alloy that is copper in order to get an alloy that is copper?

Let represent the number of ounces of copper alloy.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Number of ounces | Copper percentage  (as a decimal) | Amount of copper |
| copper |  |  |  |
| copper |  |  |  |
| copper |  |  |  |

b. A coffee company is creating a new mixture of coffee beans. How many pounds of coffee that sells for per pound should be added to pounds of coffee that sells for per pound if the goal is to get a mixture that costs per pound?

# Objective 2: Solving Distance Problems

These problems involve the distance formula, . As with the mixture problems, a table is often helpful in organizing the information.

a. Two trucks leave a warehouse at the same time, traveling in opposite directions. The rate of the faster truck exceeds that of the slower truck by miles per hour. After hours, they are miles apart. What are the rates of the trucks?

Let represent the rate of the slower truck.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Rate | Time | Distances |
| Faster truck |  |  |  |
| Slower truck |  |  |  |

b. A freight train leaves a station and travels north at mph. Two hours later, another train leaves on a parallel track and travels north at mph. How long will it take the second train to overtake the freight train? How far from the station will they meet?