**1.** A retailer sells a mix of peanuts and cashews. He charges \$2.50 per pound for the peanuts and \$6.00 per pound for the cashews. He wants to sell the mix of both nuts for \$3.20 per pound. How many pounds of each should be used to make 100 pounds of the mix?

Let $x$ be the pounds of peanuts.
Let $y$ be the pounds of cashews.

**(a)**. Write an equation that states that the total sum pounds of the nuts is 100.

**(b)**. How much does $x$ pounds of peanuts cost?

**(c).** How much does $y$ pounds of cashews cost?

**(d)**. How many dollars does the total 100 pounds of mixed nuts cost?

**(e)**. Combine the results of (b)-(d), to write an equation that states that the total cost of the mixed nuts is the amount from (d).

**(f)**. Summarize all this information in the table below.

**(g)**. Convert the table to a system of two linear equations and solve the system to find out how many pounds of each kind of nut to use.

See board for the Steps for Solving Word Problems for Systems of Equations

**2.** A 5.3 oz container of plain Greek yogurt contains 15 g of protein and 150 mg of calcium. An 8 oz glass of almond milk contains 1 g of protein and 450 mg of calcium. How many servings of each would provide 24 g of protein and 1000 mg of calcium?

A chemist has a 35% solution and a 10% solution. She would like to mix the two solutions to obtain 20 cubic centimeters (cc) of a 15% solution. How many cc's of each solution should she mix?