

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.

STEPS FOR SOLVING WORD PROBLEMS FOR SYSTEMS OF EQUATIONS

2. Mr. Jones is starting a new business. He borrows money from his bank and an investor. The bank charges an interest rate of 8% and the investor charges 10%. If the total loan amount was \$200,000 and the total yearly interest payment was \$18,500, how much did he borrow from the investor?