

M117 SECTION 4.5 PROBLEM SOLVING WITH SYSTEMS

Sue bought 3 boxes of cookies and 2 bags of chips for \$3.65. Karen bought 2 boxes of cookies and 5 bags of chips for \$4.23. Find the price of one box of cookies.

C = \$ for 1 box of cookies

P = \$ for 1 bag of chips

Two angles are supplementary and the measure of one is 20° less than three times the measure of the other angle. Find the measures of the angles.

x = measure of the 1st angle

y = measure of the 2nd angle

A certain aircraft can fly 1008 miles with the wind in 4 hours and travel the same distance against the wind in 7 hours. What is the speed of the wind?

| | Distance | Rate | Time |
|--------------|----------|------|------|
| With Wind | | | |
| Against Wind | | | |

r = speed of the aircraft

w = speed of the wind

Aviva has a total of 54 coins, all of which are either dimes or nickels. The total value of the coins is \$4.25. Find the number of each type of coin.

Dmitri needs 7 liters of a 36% solution of sulfuric acid for a research project in molecular biology. He has two supplies of sulfuric acid solution: one is an unlimited supply of the 56% solution and the other an unlimited supply of the 21% solution. How many liters of each solution should Dmitri use?

A manufacturer recently purchased \$3000 worth of new equipment to offer new personalized stationery to its customers. The cost of producing a package of personalized stationery is \$3.00, and it is sold for \$5.50. Find the number of packages that must be sold for the company to break even.