

Name \_\_\_\_\_  
Date \_\_\_\_\_

Intermediate Algebra – MTH 104  
Class #5

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**Chapter 2.3 Applications of Algebra**

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**Section 1. Separate Problems**

1. Betty sold her boat for \$15,000. She loaned some of the money to her friend Kathy. The loan was for one year with a simple interest rate of 4.5%. Betty put the remaining balance in an account at her credit union that yielded 3.75% simple interest. A year later, while working on her taxes, Betty found that she had earned a total of \$637.50 from the two investments, but could not remember the amount of money that she had loaned to Kathy. Determine the amount Betty had loaned to Kathy.


2. Mr. Simpson invested \$6,000 Part at 4% and the rest at 3%. Each year the income from the 4% investment exceeded the income from the 3% investment by \$2. Find the amount invested at each rate.


3. Matt's Hot Dog Stand in Chicago sells hot dogs for \$2.00 each and beef tacos for \$2.25 each. If the sales for the day total \$585.50 and 278 items were sold all together, how many hots and how many tacos were sold?


4. Jamal Reynolds, a chemist, has both 6% and 15% lithium citrate solutions. He wishes to make 0.5 liter of an 8% lithium citrate solution. How much of each solution must he mix?


5. How much pure acid must be added to 15 ounces of an acid solution which is 40% acid in order to produce a solution which is 50% acid?


6. The lengths of the sides of a triangle are represented by three consecutive even integers. If the perimeter of the triangle is 96 feet, find the lengths of the three sides.

7. The perimeter of a rectangular garden is 110 feet. Find its dimensions if the length is 5 feet less than twice the width.