Name _____ Date _____

Additional Exercises 3.1
Form I
Further Problem Solving

Solve each problem.

1. Six thousand dollars is invested in an account earning 3% simple interest. Find the amount of interest earned after 1 year. 1. _____

2. Eight thousand dollars is put into a savings account for two years. If the money earns 4.5% simple interest, how much interest will be earned? 2. _____

3. Kevin invested part of his $10,000 bonus in a certificate of deposit that paid 6% annual simple interest, and the remainder in a mutual fund that paid 11% simple interest. If his total interest for the year was $700, how much did Kevin invest in the mutual fund? 3. _____

4. Beth Conner is saving money for a down payment on a house. She has $15,000 dollars and is going to invest part of her money in a certificate of deposit that will earn 4% in simple interest. She will invest the rest in a mutual fund that will earn 6% simple interest. If her money has earned $780 in interest at the end of one year, how much did she invest in certificates of deposit and how much in a mutual fund? 4. _____

5. Melissa invested an amount of money at 3% annual simple interest. She invested three times that amount at 5% annual simple interest. If the total amount of interest from both investments was $5400, how much was invested at each rate? 5. _____

6. A college student earned $8800 during summer vacation working as a waiter. The student invested part of the money at 7% and the rest at 6%. If the student received a total of $560 in interest at the end of the year, how much was invested at 7%? 6. _____

Name _____ Date _____

7. A 60 milliliter solution of acid in water contains 40% acid. How much acid is in the solution? 7. _____

8. A 120 milliliter solution of acid in water contains 21% acid. How much acid is in the solution? 8. _____

9. How much pure acid should be mixed with 8 gallons of 50% acid solution in order to get an 80% solution? 9. _____

10. A chemist needs 5 liters of a 50% salt solution. All she has available is a 20% salt solution and a 70% salt solution. How many liters of each of the two solutions should she mix to obtain her desired solution? 10. _____

11. A motorcycle traveling at 60 miles per hour overtakes a car traveling at 30 miles per hour that had a three hour head start. How far from the starting point are the two vehicles? 11. _____

12. Two cars leave from the same place, traveling in opposite directions. One car travels at a constant speed of 50 mph and the other at a constant speed of 65 mph. How long will it be until the cars will be 575 miles apart? 12. _____

Name _____ Date _____

Additional Exercises 3.1
Form II
Further Problem Solving

Solve each problem.

1. Nine thousand dollars is invested in an account earning 3.5% simple interest. Find the amount of interest earned after one year. 1. _____

2. Paula put $12,260 in a savings account that will earn 4.25% simple interest. How much will she have at the end of three years? 2. _____

3. If $3000 is invested in two different interest bearing accounts, paying 4% and 6% respectively, find the amount invested at each rate if the total interest earned is $156. 3. _____

4. Johnathan is saving his money to buy a new car. He has $4800 that he will invest in stocks and bonds. The stocks earn 8.2% interest and the bonds earn 5.2% interest. If the total interest earned after one year is $348.60, how much did he invest in stocks? 4. _____

5. A chemist needs 4 liters of a 50% salt solution. All she has available is a 20% salt solution and a 70% salt solution. How many liters of each of the two solutions should she mix to obtain her desired solution? 5. _____

6. Find the number of liters of an 18% alcohol solution that must be added to a 10% alcohol solution to get 20 liters of a 15% alcohol solution. 6. _____

Name _____ Date _____

7. A total of $12.500 is invested in two accounts. One account earns 8% simple interest annually and the other account earns 4.5% simple interest annually. If the total interest earned after one year is $851.25, how much was invested in each account? 7. _____

8. Brianna's parents began saving for her college expenses when she was born. They have saved $24,000 to date. They have decided to invest part of the money in a certificate of deposit that, will earn 8.15% simple interest and part of the money in a mutual fund that will earn 9.25% interest. If at the end of the year their money has grown to a total of $26,000, find how much they put into a certificate of deposit and how much they invested in a mutual fund. 8. _____

9. Andre received $65,000 from his parents' estate, and decided to invest it all rather than spend it, hoping to build a nice retirement fund. He invested part of the money in an account that paid 12% annual interest but the rest of the money suffered a 7% loss. If the total annual income from both investments was $3430, find the amount of money invested at each rate. 9. _____

10. Two cars leave the same location at the same time traveling in opposite directions. One car averages 15 mph faster than the second car. After 4 hours, the cars are 540 miles apart. Find the speed of each car. 10. _____

11. Karen lives in a Dallas suburb and her sister, Marilyn, lives 315 miles away in Amarillo. They decide to meet somewhere in-between the two cities to have lunch on Karen's birthday. If Karen can average 60 mph and Marilyn 66 mph, find how long it will take them to meet. 11. _____

12. Alexander and Judy are 34 miles apart on a calm lake paddling toward each other. Alexander paddles at 4 mph while Judy paddles at 7 mph. How long will it take them to meet? 12. _____

Name _____ Date _____

Additional Exercises 3.1
Form III
Further Problem Solving

Solve each problem.

1. A woman puts $4375 into a savings account that earns 3.2% simple interest. How much interest will her money earn after 1 year? 1. _____

2. A total of $17,000 is invested in two accounts, both paying simple interest. One account pays 6.2% per year and the other account pays 4.5% per year. If the total interest paid in the first year is $943.50, find how much was invested at each rate. 2. _____

3. How can $70,000 be invested, part at 4% annual simple interest and the remainder at 10% annual simple interest, so that the interest earned by the two accounts is equal at the end of the year? 3. _____

4. Wendi is saving money for a car. She deposited some money into a savings account paying 5.12% simple interest and $800 less than that amount into another account paying 4.25% simple interest. If the total interest paid from both accounts was $172.14 after 1 year, find the amount invested at each rate. 4. _____

5. Find the number of ounces of a 25% acid solution that must be mixed with 80 ounces of a 40% acid solution to make a 30% acid solution. 5. _____

6. Find the number of liters of a 12% alcohol solution that must be mixed with 12 liters of a 20% alcohol solution to make an 18% solution. 6. _____

Name _____ Date _____

7. The radiator in a certain make of car needs to contain 40 liters of 40% antifreeze. The radiator now contains 40 liters of 20% antifreeze. How many liters of this solution must be drained and replaced with 100% antifreeze to get the desired strength? 7. _____

8. The manager of a candy shop sells chocolate peanuts for $8 per pound and chocolate covered cashews for $14 per pound. The manager wishes to mix 50 pounds of the cashews to get a cashew-peanut mixture that will sell for $9 per pound. How many pounds of peanuts should be used? 8. _____

9. A movie theater sold 910 tickets on a single Friday night for the opening of a much anticipated movie starring Brad Pitt. Adult tickets cost $8.50 and student tickets cost $5.75. If the total amount of ticket sales was $7256.50, find the number of each type of ticket that was sold. 9. _____

10. Los Angeles and Boston are 3024 miles apart. A jet leaves Los Angeles for Boston traveling at a speed of 400 mph. Another jet leaves Boston at the same time headed for Los Angeles traveling at a speed of 440 mph. Find out how long it will take the two jets to meet. 10. _____

11. Jeff starts driving at 55 miles per hour from the same point that Lauren starts driving at 60 miles per hour. They drive in opposite directions, and Lauren has a half-hour head start. How long will be able to talk on their cell phones that have a 300-mile range? 11. _____

12. Dave can hike on level ground 3 mph faster than he can on uphill terrain. Yesterday, he hiked 40 miles, spending 2 hours on level ground and 5 hours on uphill terrain. Find his average speed on level ground. 12. _____