Algebra 2   **Name** _____
3.8 Word Problem Practice Worksheet

1. A ferry traveled 6 miles downstream in 1.5 hours. On the return trip the ferry traveled 5.25 miles up stream in the same amount of time. What is the ferry's rate in still water and what is the rate of the current?

2. With a tail wind, a plane traveled 800 miles in 5 hours. With a head wind, the plane traveled the same distance in 8 hours. Find the plane's air speed and the speed of the wind. Assume both are constant.

3. A resort hotel has 200 rooms. Those with kitchen facilities rent for $100 per night and those without kitchen facilities rent for $80 per night. On a night when the hotel was completely occupied, revenues were $17,000. How many of each type of room does the hotel have?

4. The Crenshaw's invested $20,000, part at 8% interest per year and the remainder at 6% interest per year. After one year, they had earned a total of $1440 in simple interest. Find the amount invested at each rate.

5. Twice a number minus a second number is -1. Twice the second number added to three times the first number is 9. Find the two numbers.

6. A customer bought 1 bar of soap and 2 toothbrushes for $11. Another customer bought 5 bars of the same soap and 6 toothbrushes for $38. What is the cost of a bar of soap and one toothbrush?

7. The drama club is selling tickets to the play. An adult ticket cost $15 and a student ticket cost $10. The auditorium will seat 300 people. The drama club sold all the seats for $3630. How many adult tickets were sold?

8. A box of wood pieces contains wood cut into triangular, square, and pentagonal shapes. There are 80 pieces of wood in the box, and the pieces have a total of 290 sides. If there are 10 more triangular pieces than square pieces, find the number of pieces of wood of each shape in the box.

9. John invested $6500 in three different mutual funds for 1 year. He earned a total of $560 in simple interest on the three investments. The first fund paid 5% interest, the second fund paid 8% interest, and the third paid 10% interest. If the sum of the first two investments was $500 less than the amount of the third investment, find the amount he invested at each rate.

10. Sheridan's monthly phone bill includes a fixed charge, which is the same each month and an additional charge for toll calls. One month the bill was $22, which included charges for 5 toll calls and the next month was $26, which included 7 toll calls. Find the fixed rate charge and the average charge per toll call.

11. Soap come in packages of one, two, or four bars, costing 40¢, 60¢, and 90¢ per package, respectively. In 1 hour a store sold 50 bars of soap in 22 packages and took in $13.60. How many packages of each size were sold?