Algebra I Worksheet #8 Unit 9 page 1 _____

Write a system of **two equations** with **two variables** and solve each of the following problems. Show your **complete** solution **neatly organized**.

1. Tom invested a total of $1200, part at 5% per year and the rest at 9% per year. If the total interest for one year was $98, then how much was invested at each rate?

2. Sue invested a total of $4000, part at 6% per year and the rest at 2.5% per year. If the total interest for one year was $177, then how much was invested at each rate?

3. Mary invested a total of $2000, part at 7% per year and the rest at 3.5% per year. If the total interest for the year was $91, then how much was invested at each rate?

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Write a system of **two equations** with **two variables** and solve each of the following problems. Show your **complete** solution **neatly organized**.

4. A chemist has one solution that is 75% acid and another that is 20% acid. She needs 60cc of a solution that is 42% acid. How much of each solution should she use?

5. A chemist has one solution that is 40% alcohol and another that is 90% alcohol. She needs 100ml of a solution that is 55% alcohol. How much of each solution should she use?

6. A chemist has one solution that is 40% alcohol and another that is 80% alcohol. He needs 100cc of a solution that is 72% alcohol. How much of each solution should he use?

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Write a system of **two equations** with **two variables** and solve each of the following problems. Show your **complete** solution **neatly organized**.

7. Five hot dogs and four sodas cost $6.05. Two hot dogs and three sodas cost $3.05. How much does each item cost?

8. Four burgers and three orders of fries cost $6.20. Two burgers and one order of fries cost $2.80. How much does each item cost?

9. Five burgers and three sodas cost a total of $5.90. Eight burgers and 4 sodas cost a total of $9. How much does each item cost?

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Write a system of **two equations** with **two variables** and solve each of the following problems. Show your **complete** solution **neatly organized**.

10. A collection of 100 ordinary dimes and nickels is worth a total of $7.95. How many coins of each type are in the collection?

11. Jim and Sue received a total of $3000. The amount Sue received is $500 less than three times the amount received by Jim. How much did each person receive?

12. How can coffee worth 70 cents per pound be mixed with coffee worth $1.20 per pound to produce sixty pounds of coffee worth $1.05 per pound?