Systems of Equations Day 1 Assignment

Name _____

Date _____ Period _____

1. The Maplewood Symphony Orchestra sold 146 tickets and collected a total of $1036 in ticket sales. Admission was $5 for children and $8 for adults. Write two equations that would be used to solve the system.

   Variable: _____ Equation: _____

   Variable: _____ Equation: _____

2. The manager of a movie theater wants to know the number of adults and children who go to the movies. The theater charges $8 for each adult and $4 for each child. At a showing where 200 tickets were sold, the theater collected $1304. Write two equations that would be used to solve the system.

   Variable: _____ Equation: _____

   Variable: _____ Equation: _____

3. J. P. is thinking of two numbers. The sum of the numbers is 163, and their difference is 33. Write two equations that would be used to solve the system.

   Variable: _____ Equation: _____

   Variable: _____ Equation: _____

4. The school's photographer took pictures of couples at this year's prom. She charged $3.25 for wallet-size pictures and $10.50 for portrait-size pictures. Crystal and Dan bought a total of 10 pictures for $61.50. Write two equations that would be used to solve the system.

   Variable: _____ Equation: _____

   Variable: _____ Equation: _____

5. Cynthia's new car gets 17mi/gal in the city and 25 mi/gal on the highway. She drove 220 miles on 11 gallons of gas. Write two equations that would be used to solve the system.

   Variable: _____ Equation: _____

   Variable: _____ Equation: _____

6. On Friday, 3247 people attended the county fair. The entrance fee was $5 for adults and $3 for children 12 or under. The fair collected a total of $14,273. Write two equations that would be used to solve the system.

   Variable: _____ Equation: _____

   Variable: _____ Equation: _____

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7. Each day Sal prepares a large basket of self-serve tortilla chips in his restaurant. On Monday, 40 adult patrons and 15 child patrons ate 10.8 kg of chips. On Tuesday, 35 adult patrons and 22 child patrons ate 12.29 kg of chips. Write two equations that would be used to solve the system so that Sal would know whether adults or children eat more chips on average.

Variable: _____ Equation: _____

Variable: _____ Equation: _____

8. Will is baking a new kind of bread. He has two different kinds of flour. Flour X is enriched with 0.12 mg of calcium per gram. Flour Y is enriched with 0.04 mg of calcium per gram. Each loaf has 300 grams of flour, and Will wants each loaf to have 30 mg of calcium. Write two equations that could be used to solve the system.

Variable: _____ Equation: _____

Variable: _____ Equation: _____

9. Eric has some quarters and nickels in his pocket. He has 8 more nickels than quarters. The total value is $3.70. Write two equations that could be used to solve the system.

Variable: _____ Equation: _____

Variable: _____ Equation: _____

10. The perimeter of a rectangle is 89 cm. The length is 8 cm more than the width. Write two equations that could be used to solve the system.

Variable: _____ Equation: _____

Variable: _____ Equation: _____

11. One number is five times as large as another number. Their sum is 78. Write two equations that could be used to solve the system.

Variable: _____ Equation: _____

Variable: _____ Equation: _____

BONUS

A molecule of hexane, C_6H_{14}, has six carbon atoms and fourteen hydrogen atoms. Its molecular weight in grams per mole, the sum of the atomic weights of carbon and hydrogen, is 86.178. The molecular weight of octane, C_8H_{18}, is 114.232 grams per mole. Octane has 8 carbon atoms and 18 hydrogen atoms per molecule. Write two equations that could be used to solve the system.

_____ and _____