

Intermediate Algebra

Name: _____

Study Guide 10

Class: _____

Due Date: _____

Score: _____

No Work \Leftrightarrow No Points

Use Pencil Only \Leftrightarrow Be Neat & Organized

1. (4 points) Solve by Cramer's rule:

$$\begin{cases} x + 2y = -3 \\ 2x - 3y = 8 \end{cases}$$

1. _____

2. (5 points) Solve for z only by using Cramer's rule:

$$\begin{cases} x - y + 4z = 12 \\ 2x + 3y = 3 \\ 3x + 2y - 4z = -1 \end{cases}$$

2. _____

3. (5 points) A group of 25 adults and kids paid a total of \$222 to go to the zoo. Adult's ticket was sold at \$15 and kids ticket was sold at \$6. Find the number adults and the number of kids. You must use Cramer's rule to get full credit.

3. _____

4. (5 points) The sum of two numbers is 75. The difference of one of them and twice the other one is 0. Find both numbers. You must use Cramer's rule to get full credit.

4. _____

5. (5 points) Two angles are complementary. The sum of five times of one of them and twice the other one is 255° . Find the measure of both angles. You must use Cramer's rule to get full credit.

5. _____

6. (5 points) Solve for y only by using Cramer's rule:

$$\begin{cases} x + 2y + 3z = 3 \\ 3x + y - z = 2 \\ 2x - y - 4z = -1 \end{cases}$$

6. _____

7. (5 points) The sum of two numbers is 75. The difference of three times one of them and twice the other one is 0. Find both numbers by using Cramer's rule.

7. _____

8. (5 points) A local store sells two types of candy, one at \$1.50 and the other \$1.00 per pound. We need 50 pounds at \$1.32 per pound. Use system of linear equations in two variables and Cramer's rule to find how many pounds of each we need to buy.

8. _____

9. (6 points) Recommendation by doctors is not to take more than 2400 mg of sodium per day. Lisa had a total of 1030 mg of sodium, David had a total of 2420 mg of sodium, and Mark had a total of 1910 mg of sodium. Use the table below to determine the amount of sodium per set serving of one can of soda. You must use Cramer's rule to get full credit.

	Slice of pizza	Single dip ice cream	One can of soda
Lisa	1	1	1
Mark	2	1	2
David	3	0	2

9. _____

10. (5 points) Solve the following system of nonlinear equations by the substitution method: Warning: There are two possible answers.

$$\begin{cases} x^2 + y^2 = 4 \\ y = x - 2 \end{cases}$$

10. _____