

## M123-Intermediate Algebra

### Review for sections 8.1-8.3, & 8.6

Note: This review sheet was created to review the concepts presented in your text. Each instructor may have other problems you should review to prepare for quizzes and exams in your section of the course.

1. Sketch examples of systems of equations that are consistent, inconsistent, and dependent. (Section 8.1)
2. Solve the following system graphically using graph paper. (Section 8.1)  
$$3x + 2y = -4$$
$$y = 3x + 7$$
3. Solve the following system graphically using graph paper. (Section 8.1)  
$$5x - 2y = 4$$
$$y + x = 5$$
4. Solve the following system graphically using graph paper. (Section 8.1)  
$$3x - y = 5$$
$$6y - 2x = 10$$
5. Solve using the substitution method. List any solution as an ordered pair. (Section 8.2)  
$$x + 3y = 10$$
$$3x - 3y = 5$$
6. Solve using the substitution method. List any solution as an ordered pair. (Section 8.2)  
$$7x - 5y = 8$$
$$y = x - 2$$
7. Solve using the elimination method. List any solution as an ordered pair. (Section 8.2)  
$$4x + 5y = 34$$
$$3x - 10y = 53$$
8. Solve using the elimination method. List any solution as an ordered pair. (Section 8.2)  
$$2y + 3x = 2$$
$$4x + 6y = -\frac{7}{3}$$

9. Write a system of equation and solve using Substitution or Elimination.  
The perimeter of a rectangle is 24. The length of the rectangle is eight less than three times the width. Find the dimensions of the rectangle. (Section 8.3)
10. Write a system of equation and solve using Substitution or Elimination.  
The total number of passengers riding a certain city bus during the evening shift is 1000. If the child's fare is \$0.25, the adult fare is \$0.75, and the total revenue from the fares in the evening is \$650, how many children and how many adults rode the bus during the evening shift? (Section 8.3)
11. Write a system of equation and solve using Substitution or Elimination.  
Soybean meal is 16% protein and corn meal is 9% protein. How many pounds of each should be mixed to get a 350-lb mixture that is 12% protein? (Section 8.3)
12. Solve using matrices. List any solution as an ordered pair.  
(Section 8.6)  
 $x + 3y = 16$   
 $6x + y = 11$
13. Solve using matrices. List any solution as an ordered pair.  
(Section 8.6)  
 $x + 2y - 3z = 9$   
 $2x - y + 2z = -8$   
 $3x - y - 4z = 3$
14. Write a system of equation and solve using matrices.  
(Section 8.6)  
Jill bought two sandwiches and one order of fries for \$5.50. Jane bought one sandwich and 2 orders of fries for \$5.00. Find the price of each item.