



Algebra 1 Newsletter

Unit 4: Systems of Equations and Inequalities

December 2006



Dear Parents:

This is a brief description of what your child will learn in the fourth unit of Algebra 1 as well as some specific ways that you can help your child. Please feel free to contact your child's teacher if you have any questions.

Enduring Understanding

Systems of equations and/or inequalities are used to model and solve real-world problems involving two or more variables.

Essential Questions

What methods can be used to solve systems of equations and inequalities?
How are systems of linear equations and inequalities useful?

Indicators: Students will be able to . . .

- solve and describe using numbers, symbols, and/or graphs if and where two straight lines intersect.
- write a system of equations for a real-world situation that is expressed verbally, numerically, or graphically.
- describe the graph of a system of linear relationships.

WAYS PARENTS CAN HELP

- ? Ask your child to demonstrate to you the different ways that a system of linear equations can be solved (graphically, by substitution, and by linear combination). Ask them to tell you what the advantages are for each different method.
- ? Start to prepare your child for the county semester exam by reviewing material from the beginning of the year, such as translating real world problems into mathematical situations. Exams will be given during January 12th to January 19th. The date depends on the period that the class meets.

Sample High School Assessment Problems

(from the Maryland state H.S.A. web site http://mdk12.org/mspp/high_school/look_like/algebra/intro.html)

Martin and Anna buy books at a sale. Martin buys 3 hardcover books and 4 paperback books for \$6.50. Anna buys 2 hardcover books and 6 paperback books for \$6.00. What is the cost, in dollars, of each hardcover book?

A park ranger spent \$208 to buy 12 trees. Redwood trees cost \$24 each and spruce trees cost \$16 each. How many of each tree did the park ranger buy?

- F 10 redwoods and 2 spruce
- G 9 redwoods and 3 spruce
- H 3 redwoods and 9 spruce
- J 2 redwoods and 10 spruce

At a baseball game Sam bought 2 hamburgers and 1 order of French fries for a total of \$3.75. Erica bought 1 hamburger and 2 orders of French fries for a total of \$3.00.

Complete the following in the Answer Book:

- Write an equation that represents Sam's total cost. Write an equation that represents Erica's total cost.
- What is the cost of one hamburger? What is the cost of one order of French fries? Use mathematics to explain how you determined your answers. Use words, symbols, or both in your explanations. (If you choose to draw a graph, use the grid provided in the Answer Book to add to your written response.)
- Use mathematics to justify your answers for the cost of one hamburger and the cost of one order of French fries.

Kareem is going to Florida. The cost for two different vacation packages is shown below.

FLORIDA VACATION PACKAGES

Package	A	B
Roundtrip Airfare Cost	\$150	\$210
Hotel Cost (per night)	\$55	\$40

How many nights would Kareem need to stay in a hotel to pay the same amount for either vacation package?