



Math 78 Unit 10

Solving Systems of Equations

Volume 1 Issue 10

References

McGraw Hill Georgia
Math 8 Volume 2:

Chapter 9 –
Lessons 3 & 4

Georgia Math Online:

www.connectED.mcgraw-hill.com

Links:

<http://www.purplemath.com/modules/systlin1.htm>

https://my.hrw.com/math11/math06_07/nsmedia/lesson_videos/alg1/player.html?contentSrc=7529/7529.xml

<http://mathbitsnotebook.com/Algebra1/Systems/SYlinear.html>

<http://mathbitsnotebook.com/Algebra1/Systems/SYlinearGraphic.html>

<http://mathbitsnotebook.com/Algebra1/Systems/SYlinearAlgebra.html>

Dear Parents:

Below you will find a list of concepts that your child will use and understand while completing Unit 7 Solving Systems of Equations. Also included are references, vocabulary and examples that will help you assist your child at home.

Concepts Students will Use and Understand

- Analyze and solve systems of linear equations.
- Understand and solve systems of equations graphically and algebraically, using technology as appropriate.
- Solve real-world problems leading to two linear equations with two variables.

Vocabulary

Coefficients: a numerical factor in a term of an algebraic expression.

Intersecting Lines: lines that have one point in common or all points in common.

Linear Combination Method: a technique for solving a system of equations that involves combining two equations in order to eliminate one of the variables and solving for the remaining variable. Adding, subtracting, or multiplying a system of equations to help solve the system.

Simultaneous equations: Another name for a system of Linear Equations

Substitution Method: a technique for solving a system of equations that involves replacing one variable with an equivalent expression and solving for the remaining variable.

System of Linear Equations: two or more equations that together define a relationship between variables usually in a problem situation. A system of equations can have no solution, one solution, or many solutions.

Try <http://intermath.coe.uga.edu/> for additional help.
www.ceismc.gatech.edu/csi

Math 8 Unit 7

Solving Systems of Equations

Example 1

Solve the system of equations using any method you choose.

$$2x + y = 7$$

$$x - 3y = 0$$

Example 2

Determine whether either of the points $(-1, -5)$ and $(0, -2)$ is a solution to the given system of equations.

$$y = 3x - 2$$

$$y = -x - 6$$

Example 3

Gustav has 35 dimes and quarters that total \$5.00. Solve a system of equations to find out how many dimes and how many quarters he has.

Key

Example 1

$(3, 1)$

Example 2

To check the given possible solutions, I just plug the x - and y -coordinates into the equations, and check to see if they work.

$(-1, -5)$ is the only point that satisfies both equations so it is a solution.

Example 3

Let d = # of dimes and q = # of quarters

$$d + q = 35 \quad \text{and} \quad 0.1d + 0.25q = 5$$

He has 25 dimes and 10 quarters
