|  |  |
| --- | --- |
|  |  |
|  | **Math 8 Unit 7**  **Solving Systems of Equations** |
| Volume 1 Issue 7 |  |
| **References**  McGraw Hill Georgia Math 8 Volume 2:  Chapter 9 –  Lessons 3 & 4  **Georgia Math Online:**  [www.connectED.mcgraw-hill.com](http://www.connectED.mcgraw-hill.com) | 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](http://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* = 3*x* – 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. |
|  |  |
| **Links:**  <http://www.purplemath.com/modules/systlin1.htm>  <http://www.regentsprep.org/Regents/math/ALGEBRA/AE3/indexAE3.htm>  <http://www.regentsprep.org/Regents/math/ALGEBRA/AE85/indexAE85.htm>  <http://www.regentsprep.org/Regents/math/ALGEBRA/AE9/indexAE9.htm> | **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 and 0.1d + 0.25q = 5**  **He has 25 dimes and 10 quarters** |
|  |  |