Foundations of Algebra
Final Study Guide Part 2

Name: _____ Date: _____ Block: _____

Unit 1: Relationships between Quantities and Expressions

1.) Find the sum$(3x^2 + 6x - 4) + (6x^2 - 5x + 9)$.

2.) Find the difference $(6x^3 - 7x^2 + x - 15) - (2x^2 - 4)$.

3.) Multiply the polynomials $(x - 5)(8x + 3)$.

4.) Simplify $\sqrt{75x^5}$

5.) Simplify $17\sqrt{5} - 7\sqrt{45}$.

6.) Simplify $9\sqrt{7} + 4\sqrt{7}$

7.) Simplify $(\sqrt{18})(\sqrt{6})$

8.) Simplify $\sqrt{5}(7 + \sqrt{12})$

Unit 2: Reasoning with Linear Equations and Inequalities

9.) You are purchasing paint and paintbrushes for an art project. Tubes of paint cost $9 each and paintbrushes cost $5 each. You plan on spending $45 and purchasing a total of 7 items. Write a linear system that best represents the situation.

10.) What is the solution to the following system of equations? $\begin{cases} 7x - 2y = -15 \\ 7x - 6y = 25 \end{cases}$

11.) What is the solution to the following system of equations? $\begin{cases} -x + 5y = 10 \\ 2x + y = 13 \end{cases}$

12.) Graph the solution of the following inequality. $\begin{cases} y \geq \frac{1}{2}x + 1 \\ y \leq -\frac{1}{2}x + 3 \end{cases}$
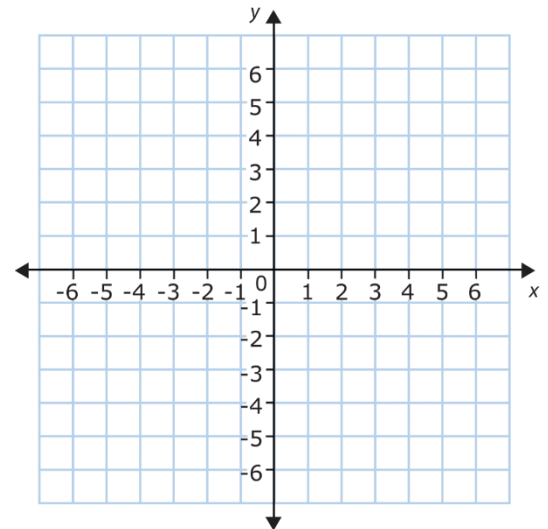
13.) Give an example of the each of the following types of solutions.

	One Solution	No Solutions	Infinite Solutions
Graph			
Equation			