Algebra 2 (Honors)

Section 1.5: Solving Equations

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**: Students will solve problems by writing and solving linear equations algebraically and graphically.

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| **Main Idea** | **Notes** |
| **No Dow (Example 1): Solving Equations by Graphing** | Solve by graphing: |
| **Vocabulary: Summary of the Steps Used to Solve Equations by Using the Graphing Calculator** | Step 1: Graph the two equations, one representing the left side and one representing the right side.  Step 2: Find the point of intersection.  2nd 🡪 CALC🡪 5:intersect  Go to the first line near the point of intersection and press ENTER.  Go to the second line near the point of intersection and press ENTER.  Then press ENTER again.  Step 3: If we are solving for x, use the first value in the point of intersection. That is your answer!  Now solve the following equations using your graphing calculator:  How do these answers compare to the answers from the “Do Now”? |
| **Practice:** | Solve each equation by graphing by hand. Then, check your answer using the graphing calculator.   1. 2. |
| **Vocabulary: Properties of Equality** | Equations can also be solved algebraically using the following properties:  ***Properties of Equality***  Addition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Subtraction: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Multiplication: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Division: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Example 2:**  **Solving Equations Algebraically** | The equation relating Celsius and Fahrenheit temperatures is F = C + 32.  Find the degrees Celsius equal to 122°F.   1. Solve the equation graphically using the graphing calculator. 2. Solve the equation algebraically |
| **Vocabulary: The Distributive Property**  **Vocabulary: Equivalence** | For any real numbers a, b, and c,  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Equivalent:  Equivalent Equations:  Substitution property:  Examples of Equivalent Equations: |
| **Example 3: Solving Equations Using Substitution**  **Example 4: Solving Equations Using Substitution** | Given that *y = 4 – 2x*, solve *3x + 5y = 6* for x and y.    Given that *x = 3y – 1*, solve *5x – 2y = 21*  for x and y. |
| **Example 5: Solving a Literal Equation** | Given the equation V = , solve for h in terms of V and b. |
| **Homework:** |  |