Algebra 1 (CCSP)

Section 1.4: Solving Two-Step and Multi-Step Equations

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

**Objectives**: Students will be able to solve equations in one variable that contain more than one operation.

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| **Main Idea** | **Notes** |
| **Exploration:** | 1.4 Exploration: Solving Two-Step and Multi-Step Inequalities |
| **Different Steps to Create Equivalent Equations:****Example 1: Solving a Two-Step Equation using the Balance** |

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| --- | --- | --- |
| Step | Given Equation | Equivalent Equation |
|  | **2x – x = 4** |  |
|  | **x + 1 = 6** |  |
|  | **2x = 6** |  |
|  | **2 = x** |  |

Solve 3x + 5 = 12Take another look at the balance:What would you do first to get the x alone? Make sure it remains balanced!Now we are left with this on our balance:What would you do next to get the x alone? Make sure it remains balanced!So what does x equal? Show it on the balance below: |
| **Example 2: Solving Two-Step Equations** | Solve for the variable. Show all of your work!1. $8m-10=36$
2. $\frac{w}{6}+17=31$
 |
| **Example 3: Solving a Two-Step Equation with Fractions** | Solve for the variable. Show all of your work!$$\frac{q}{15}-\frac{1}{5}=\frac{3}{5}$$ |
| **Example 4: Simplifying Before Solving****Example 4: Simplifying Before Solving** | Solve for the variable. Show all of your work!1. 8x – 21 – 5x = -15
2. 10y – (4y + 8) = -20
3. -2(3 – d) = 4
4. 4(x – 2) + 2x = 40
 |
| **Example 5: Real-World Application** | Sara belongs to a music club. She can buy a discount card for $19.95. This card allows her to buy CDs for $3.95 each. After one year, Sara has spent $63.40.Write and solve an equation to find how many CDs Sara bought during the year. Let c = the number of CDs |
| **Example 6: Solving for a Variable to Find the Value of an Expression****Example 6 (Continued): Solving for a Variable to Find the Value of an Expression** | 1. If 4a + 0.2 = 5, find the value of a – 1.
2. If 3d – (9 – 2d) = 51, find the value of 3d.
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| **Exit Ticket:** | On a separate piece of paper, answer the following questions.(We will share these with the class and I will collect this for a classwork grade)1. What are the steps you would follow to solve 2x + 1 = 7?
2. How is the procedure different from the one you would follow to solve 2x – 1 = 7?
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| **Classwork:** | 1.4 Technology Lab |
| **Homework:** | 1.4 Additional Practice Worksheet |