Standard A.REI.3 **2.3** **Solving Multi-Step Equations** Unit 1 Day 1

**Solving Multi-Step Equations:** Work the order of operations backwards until you have isolated the variable! Remember to think opposites!

**NOTE:** If there is only one fraction, isolate the fraction and then get rid of the denominator before you do anything else!

**Step 1:** Combine any like terms that follow order of operations.

**Step 2:** Look for any addition or subtraction, and do the opposite.

**Step 3:** Look for any multiplication or division, and do the opposite.

**Step 4:** Look for any exponents, and take the opposite root.

**Step 5:** Look for any parenthesis, and apply the opposite operation from what is inside the parenthesis.

**Example 1:** Solve 

|  |  |  |
| --- | --- | --- |
| **Order of Operations says…** | **Working Backwards…** | **Solution** |
| 1. Start with the x | 4. |  |
| 1. Divide by 3 |  |
| 1. Add 5 | 2. |
| 1. End with 14 |  |

**Example 2:** Solve 

|  |  |  |
| --- | --- | --- |
| **Order of Operations says…** | **Working Backwards…** | **Solution** |
| 1. Start with the x | 5. |  |
| 1. Add 5 | 4. |
| 1. Divide by 2 | 3. |
| 1. Subtract 6 |  |
| 1. End with -5 |  |

**Challenge!** Solve for x: 

**Example 3:** Solve 

**Classwork:** Complete the following in class for credit. Solve for each variable. Show all work for credit!

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10. 
11. 
12. 