Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Week of Monday, October 22- Thursday, October 25: Guided Notes: **Multi-Step Equations**

**Monday, October 22nd**

**> Do Now:**

1. Solve for c. -10 + ½c = 30
2. Solve for x. (4/x) – 20 = 40

**> Multi-Step Equations:**

* With Multi-Step Equations it can be hard to know where to start…. pretend it’s a party!
* You are the host - a.k.a. ‘X’
* In what order do people leave a party?
	+ **Enemies** *(get rid of them to avoid trouble)*
		- *We’ll learn about them later!*
	+ **Acquaintances** *(after mingling with everyone, they usually leave early)*
	+ **Friends** *(they hang out with the host a little longer)*
	+ **Family** *(if attending, they will stay to the end to help clean)*

**> Steps:**

1. Identify the party-goers.
2. Eliminate party-goers in order.
3. Get x (the host) alone.
4. Check your solution.

**> Identify the Party Goers:** $\frac{2x-5 }{3}$ = 7

**> Example Problems:**

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| **> Example 1:** $\frac{2x-5 }{3}$ = 7 |
| **> Example 2:**$ \frac{x-2 }{3}$ = 6 |
| **> Example 3:** $\frac{-3x+7}{5}$ = - 10 |
| **> Example 4:** $\frac{-\frac{1}{2}x-4 }{-2}$ = 9 |
| **> Example 5:** $\frac{-2x+3}{7}$ = $\frac{3}{4}$ |
| **> Example 6:** $\frac{-6x-2}{8}$ = $\frac{1}{5}$ |
| **> Example 7:** $\frac{9x+6}{7}$ = 12 |
| **> Example 8:** $\frac{-3x-3}{-14}$ = 22 |
| **> Example 9:** - 4 = $\frac{5x+10}{-20}$ |
| **> Example 10:** $\frac{2}{5}$= $\frac{0.5x-0.75}{-0.4}$ |
| **> Example 11:** 28 = $\frac{-21x+10}{-7}$ |
| **> Example 12:** - 10 = $\frac{4x-12}{7}$ |

**Tuesday, October 23rd**

**> Do Now:**

1. Solve for X. – 2 = $\frac{3x+6}{4}$ 2. Solve for X. $\frac{-3x+0.5}{0.25}$ = -4

**> Label the Party Goers:**  $\frac{5}{3}$ ($\frac{3x+9}{3}$)= 10

|  |
| --- |
| **> Example 1:** $\frac{1}{3}$ ($\frac{2x-6}{3}$)= 4 |
| **> Example 2:**$ \frac{5}{3}$ ($\frac{3x+9}{3}$)= 10 |
| **> Example 3:** - $\frac{2}{5}$ ($\frac{-3x-12}{-4}$)= -5  |
| **> Example 4:**$ \frac{3}{4}$ = $\frac{1}{2}$ ($\frac{-0.5x+4}{-2}$)  |
| **> Example 5:** -3 = $\frac{3}{4}$ ($\frac{3x-6}{9}$)  |
| **> Example 6:** 4 = $\frac{2}{3}$ ($\frac{-2x+12}{4}$)  |
| **> Example 7:** 3= $\frac{1}{3}$ ($\frac{3x-9}{-6}$)  |
| **> Example 8:** 8= $\frac{1}{2}$ ($\frac{-0.5x+6}{8}$)  |
| **> Example 9:** 5= $\frac{2}{4}$ ($\frac{14x-7}{21}$)  |
| **> Example 10:** 2= $\frac{1}{5}$ ($\frac{3+4x}{8}$)  |
| **> Example 11:** 9= $\frac{4}{5}$ ($\frac{6+12x}{3}$)  |

**Wednesday, October 24th**

**> Do Now:**

1. Solve for X. 6= $\frac{1}{5}$ ($\frac{4+3x}{5}$)
2. Simplify as much as you can:
* 10 x – 12x
* 3x + 4 – 10x + 7
* -10 + 2x – 5 + 4x

**> Identifying the Parts of an Equation:**

 2x – 5x2 + 10 + 7 – x

* Terms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Variables: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Coefficients: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Constants: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Like terms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**> Combining Like Terms:**

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| --- |
| **Example 1:** 2x + 5x |
| **Example 2:** 2x – 5x |
| **Example 3:** 2x(5x) |
| **Example 4:** -5y + 10y |
| **Example 5:** -5y – 10y |
| **Example 6:** -5y(10y) |
| **Example 7:** 5x + 10y  |
| **Example 8:** -10 + 4x – 5 + 7x = -3 + 18x  |
| **Example 9:** 3x – 4 + 9x = 2x – 10 – 5x |
| **Example 10:** -2x – 7+ 4x = 3x +5- 8x + 10 |
| **Example 11:** -½x – 6 + 12x – 32 = 5x – 8 + 9x |
| **Example 12:** ¾x – 4.5 + 12x – 12 = 15x – 7 + 30x + 2   |
| **Example 13:** -5x + ¼ - 10 – 15x = 3x – 14 + 7x – 10 |
| **Example 14:** -30 + 10x – 20 – 15x = -6 + 12x – 18 + 8x |
| **Example 15:** 6y – 13 + 10y – 4y = -15 – 5y + 8y |
| **Example 16:** 9x – 20 + 12x – 14 – 10 = 5x – 7x + 4 - 10 |

**Thursday, October 25th**

**> Do Now:**

1. -2( x - 7) + 12x – 10 = 3 + 5x – 10 + 8x

**> Multi-Step Equations:**

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| **Example 1:** -(-1 + x) + 10x – 15 = 3x -4(x – 2) + 15x - 10   |
| **Example 2**: 2(-7 + x) – 10x + 25 = -7x – 35 + 12x |
| **Example 3:** 3(4 + 2x) – 3x + 20 = -12 + 30x –(x – 3) |
| **Example 4:** 5x( 3 – 2) – 12 = 2( 3x + 5) + 20 |
| **Example 5:** 10( 4 + 2x) -20 + 5x = 12x – 5 + 8x  |
| **Example 6:** 3( 6 – 2x) + 10 – 12x = 30x – 15 + 3(x – 4) |
| **Example 7:** 5(6 – 4x) + 25 – 10x = 4x + 12 – 9x + 7 |
| **Example 8:** 9( 3x – 7) + 6x = 26 – 14x + 12 – 6x |
| **Example 9:** $\frac{1}{2}$ ($\frac{3x-12}{4}$) = -6  |
| **Example 10:** $\frac{-2x+5}{-3}$ = 12 |
| **Example 11:** $\frac{-8+7x}{6}$ = 9 |
| **Example 12:** $\frac{3(2+5x)}{3}$ = 10 |