Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_

**5.3B Solving Systems of Linear Equations by Elimination Method\_Classwork**

*Objective: solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. CCSS: 8.EE.8b*

*HW: 5.3B worksheet*

Use elimination method when both equations are in STANDARD FORM (Ax + By) = C.

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| **Lesson Starter:**Fill in the blanks $6 ∙ \left( \right)= -18$ $-2 ∙ \left( \right)= -10$ What is the lowest common multiple of 3 and 6 \_\_\_\_\_\_\_What is the lowest common multiple of 6 and 8 \_\_\_\_\_\_\_What is the lowest common multiple of 7 and 3 \_\_\_\_\_\_\_  |

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| Look at each system and identify which variable you would eliminate first.

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| --- | --- |
| 1)$$ 6x+2y=-14$$$$3x-4y=6$$Eliminate the \_\_\_\_ variable. I would multiply the \_\_\_\_\_\_ equation by \_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 2)$$3x-10y=2$$$$5x-5y=10$$Eliminate the \_\_\_\_ variable. I would multiply the \_\_\_\_\_\_ equation by \_\_\_\_ because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **THINKING PROBLEM:** Which value(s) of “a” can you replace in order to solve the system by elimination without multiplying first? Explain.$$ 4x+5y=14$$$$ ax+4y=7$$ |

**EXAMPLE PROBLEMS**

Solve using the elimination method

|  |  |
| --- | --- |
| 1. 3x + 2y = 46 **ELIMINATE “x”**

 x + 5y = 11  | 1. 3x + 2y = 46 **ELIMINATE “y”**

 x + 5y = 11  |
|  2. 3x + 5y – 1 = 0  -6x – 10y = 14 | 3. 7x + 3y = 0  14x + 6y = 0 |

**PRACTICE PROBLEMS**

Directions: Solve each systems of equations using the ELIMINATION METHOD

|  |  |
| --- | --- |
| 1. 3x – y = 2 -2x + 4y = 2 | 2. x = 2y + 4 -3x + 5y = -3 |
| 3. –3x + 4y –3 = 0 -12x + 16y = 8  | 4. -16x – 20y = 12 -8x – 10y = 6 |
| 5. 2x – 4y = 6 3x + 7y = 9 |
| Solutions: 1. (1,1) 2. (-14,-9) 3. No Solution 4. IMS 5. (3, 0) |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Math Intervention (ELIMINATION METHOD)

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| *Example 1 (eliminate “x”)* 3x + 2y = 46  x + 5y = 11  | *Example 2 (eliminate “y”)* 3x + 2y = 46  x + 5y = 11  |
| 1. *(FROM 5.3B NOTES)*

3x – y = 2 -2x + 4y = 2 | 1. *(FROM 5.3B NOTES)*

. x = 2y + 4 -3x + 5y = -3 |