Math 1 **8.5 Factoring Trinomials (ax2 + bx + c)** Unit 7

*SWBAT factor trinomials in the form ax2 + bx + c with positive factors and an “a” term equal to 1.*

To factor a trinomial of the form *ax2 + bx + c*, you must find two numbers that have the \_\_\_\_\_\_\_\_\_\_\_\_\_ of b and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_.

\*\*What does it really mean to **factor** a trinomial? It means to write it as the \_\_\_\_\_\_\_\_\_\_\_\_ of two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. We can do this by using the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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| **How to Factor a Trinomial in the Form ax2 + bx + c** |
| Diamond PuzzleDiamond Puzzle**Step 1:** Factor out a GCF if one exists  **Step 2:** Multiply your first term (a) and your last term (c)  **Step 3:** Set up your ***X-Factor*** (what multiplies to “ac” that adds to “b”)  **Step 4:** Set up two quantities such that (ax + \_\_)(ax + \_\_)  **Step 5:** Divide by a common factor if one exists to simplify the quantity!  **Step 6:** FOIL to check work! (Don’t forget your GCF in front)! |

1. 
2. 
3. 
4. 
5. 7d2 – 26d – 8
6. 
7. 6t2 + 25t + 11
8. 
9. 
10. 6x2 + 23x + 7
11. 20x2 + 80x + 35
12. 
13. 
14. 
15. 2x2 – x - 15

**Trinomials in the form x2 + xy + y2: (x + y)(x + y)**

*Set up your X-factor the same way, but attach the second variable to the numbers inside the factors.*

1. x2 – 8xy + 12y2
2. x2 + 11xy + 18y2
3. 
4. x2 + 20xy + 100y2
5. x2 + 2xy – 15y2
6. x2 – 6xy + 5y2

**Factoring Mixed Review**

Directions: Factor each of the following completely. Remember to use GCF, X-Factor, Backwards Box, or a mix of all three!

1. 
2. 
3. x2 + 5x
4. 
5. 7d2 – 20d – 3
6. 
7. 
8. 
9. 6y2 – 6y – 540
10. 2x2 – 2x – 60

1. 
2. 
3. 
4. 5k2 – 2k – 7
5. 2n2 + 15n + 7
6. 
7. 15p3 – 6p2 – 45p
8. 