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**Solve Quadratics by Factoring when a>1**

Standard form of a quadratic equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Put equation in descending order from highest to lowest power.
2. List all the factors of a.
3. List all the factors of c. (Assume order matters and also show the reverse order for each set of factors.)
4. Test different combinations of the factors of a and c to find the combination that yields the value for b.
5. Create two binomials with the selected factors of a and the variable as the first terms, and the selected factors of c as the second terms.
6. Use the distributive property to test your binomials.

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| **1. Equation:** 5x2 + 31x + 6 **a =** 5 ***b =*** *31*  **c =** 6 | | |
| **2. Factors of a:** | **3. Factors of c:** | **4. Test to find b: (outside x outside)+(inside x inside)** |
| [5,1] | [6,1] | (5 • 1) + (1 • 6) = 5 + 6 = 11 NO |
|  | [1,6] | (5 • 6) + (1 • 1) = 30 + 1 = 31 YES |
|  | [3,2] |  |
|  | [2,3] |  |

5. (5x )(1x ) = 0 (5x + 1)(x + 6) = 0

6. 5x2 + 30x + 1x + 6 = 0

5x2 + 31x + 6 = 0 ****

#1 7x2 – 54x + 35 = 0

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| **1. Equation: a= b= c=** | | |
| **2. Factors of a:** | **3. Factors of c:** | **4. Test to find b: (outside x outside)+(inside x inside)** |
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#2 2x2 – x – 6 = 0

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| **1. Equation: a= b= c=** | | |
| **2. Factors of a:** | **3. Factors of c:** | **4. Test to find b: (outside x outside)+(inside x inside)** |
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