

5.3 Factoring Trinomials ($ax^2 + bx + c$) Trial and Error Method

1. Determine signs:

--Last term in the trinomial is positive: the last terms in the binomials will have the same sign as the middle term of the trinomial.

--Last term in the trinomial is negative: the last terms of the binomials have different signs. Wait to place signs.

2. Determine **FIRST AND LAST** terms in binomials: Look at all pairs of factors of the **first** and **last** terms of the trinomial. Choose the pairs that will make the sum of the outside and inside terms of the binomials equal the middle term of the trinomial. Use a pencil. A lot of trial and error may be involved!

FACTOR AND CHECK. IF A POLYNOMIAL IS PRIME, STATE THIS:

1. $2x^2 + 3x + 1$

2. $3a^2 - 5a + 2$

3. $2x^2 - 11x + 14$

4. $7y^2 - 19y - 6$

5. $3x^2 + 2x - 8$

6. $5x^2 - 48x - 20$

7. $4y^2 + 17y - 15$

8. $8x^2 + 33xy + 4y^2$

9. $3x^3 + 10x^2 + 8x$

10. $6x^2 + 33x + 36$

11. $12c^2 - 7c - 12$

12. $3x^2 - 47x + 30$

13. $9m^2 - 3mn - 2n^2$

14. $6x^2 - 13x + 6$

15. $6a^2 + 7ab - 20b^2$