

Worksheet 3-5: Factoring Trinomials of the Form $ax^2 + bx + c$ (Part 2)

Steps for Factoring Trinomials of the form $ax^2 + bx + c$:

- 1. Factor out any greatest common factor (GCF can divide each term "evenly")**
- 2. Factor as product of two binomials (by "Trial and Error" using product and sum)**
- 3. Check each binomial for any other common factor**
- 4. Check your answer by expanding**

There are two ways to factor trinomial of the form $ax^2 + bx + c$ where a is not a common factor. Both ways require "trial and error" to find the right binomial factors.

Factor each trinomial.

1. $3x^2 - 5x - 2$

Decomposition

Box Method

2. $2y^2 + 11y + 12$

3. $6m^2 + 13m - 5$

4. $10t^2 + 11t - 6$

5. $10x^2 - 22x + 4$

6. $12r^2 + 27r + 15$

7. $-4x^2 - 22x - 28$

Answers: 1. $(3x+1)(x-2)$; 2. $(y+4)(2y+3)$; 3. $(3m-1)(2m+5)$; 4. $(2t+3)(5t-2)$; 5. $2(x-2)(5x-1)$;
6. $3(r+1)(4r+5)$; 7. $-2(x+2)(2x+7)$