6.3   Factoring Trinomials with Leading Coefficient $\neq 1$

There are three main methods for factoring trinomials of the form $ax^2 + bx + c$ where $a \neq 1$. They are ranked below from easiest to least easy.

1. Slide & Divide

2. Grouping

3. Trial & Error

My personal recommendation is the slide & divide method. Solving these problems by grouping is valid, but still requires significant guessing and checking.
A handout detailing the slide and divide method is available on Canvas.

Example 6.3.1
Factor $5x^2 - 14x + 8$.

Example 6.3.2
Factor $6x^2 + 19x - 7$.

Example 6.3.3
Factor $3x^2 - 13xy + 4y^2$.

Example 6.3.4
Factor $8x^2 - 10x + 3$.

Example 6.3.5
Factor completely: $5y^4 + 13y^3 + 6y^2$.