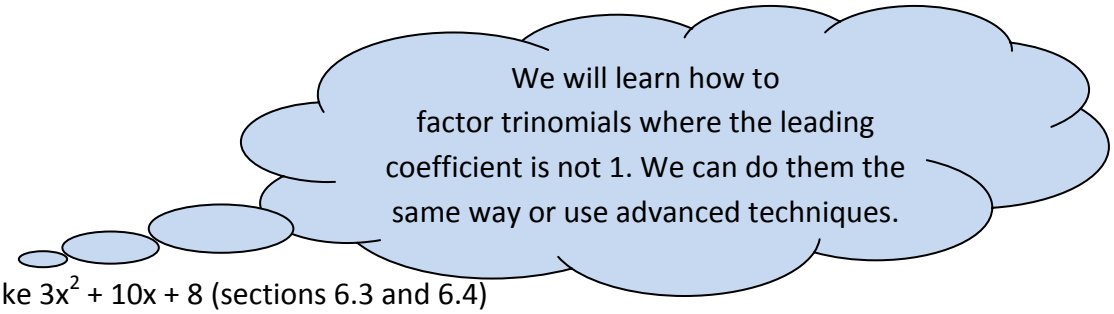



Intermediate algebra
Class notes
Factoring Trinomials like $3x^2 + 10x + 8$ (sections 6.3 and 6.4)

We must always remember and never forget…

1. Try to factor the GCF out of all terms before you begin.
2. Check for additional factoring possibilities when you think you are done.
3. Practice, practice, practice.

Worksheet: Factoring trinomials: Part 1: Introduction, Factoring by grouping, and A-C method

The A-C method is sometimes referred to as factoring by grouping because the method uses it. However, my worksheets make a distinction between factoring by grouping and the A-C method.

Worksheet: Factoring trinomials: Part 2: Reverse FOIL method

This method is essentially what we learned in the previous section and may be called Trial and error. It is more complicated when the leading coefficient is not 1 since there are more possibilities. Keep organized and you will be fine.

Worksheet: Factoring trinomials: Part 3: Cross-product method and wrap-up

This method is similar to the Reverse FOIL and is really just another way to write the possibilities.

Worksheet: Part 4: Upside down method

Again, this is yet another method. I usually reserve it for trinomials with large numbers or those that are particularly hard to factor. You must follow the six steps carefully and completely.

You should become familiar with all of the methods. You might find certain problems are easier with a particular method. You may find you want to focus and apply one method most of the time. The methods you choose are up to you.

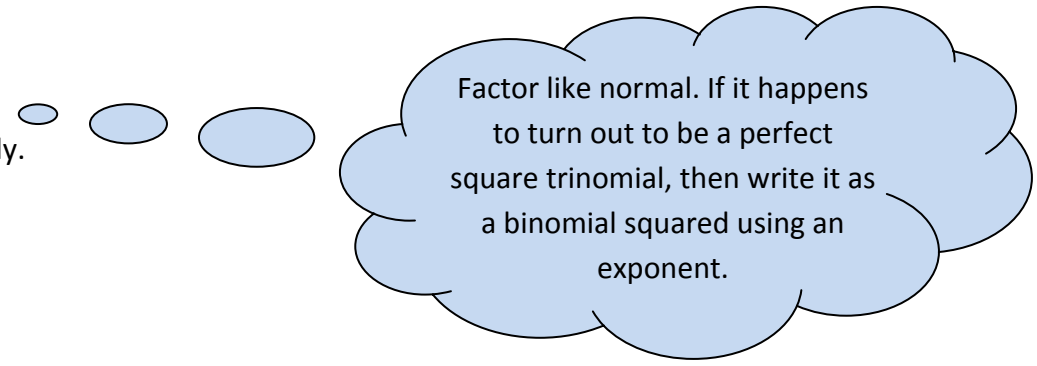
Most of the examples for this section are provided on the worksheets.

**Definition: Perfect square trinomial:** A trinomial whose factored form is a binomial squared.

expl: The trinomial $4x^2 + 12x + 9$ is a perfect square trinomial because its factored form is $(2x + 3)(2x + 3)$ or $(2x + 3)^2$.

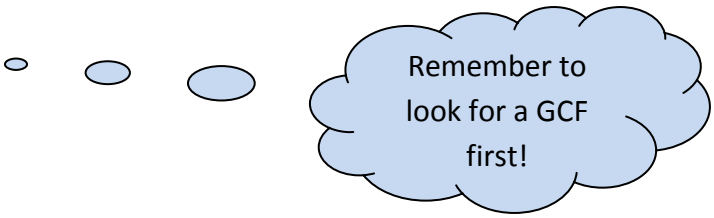
expl 1: Factor completely.

$x^2 + 4x + 4$




expl 2: Factor completely.

$5x^2 - 10x + 5$




expl 3: Factor completely.

$2x^2 + 8x + 6$

expl 4: Factor completely.

$3x^2 - 17x + 10$