

Algebra I
Lesson 8.6– Choosing a Factoring Method

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Over the past sections we have learned different factoring methods. The final step is to be given a polynomial, study it and make your own assessment as to what needs to be done to factor it. In many cases there may be more than one factoring process necessary to factor the polynomial completely.

Here are some guidelines to study and follow when you have to make your own decision as to how to go about factoring a mystery polynomial.

Factoring Polynomials
1. Check of a greatest common factor
2. Check for a pattern that fits the difference of two squares or a perfect-square trinomial
3. To factor $a^2 + bx + c = (a + b)^2$, look for two numbers whose sum is b and whose product is c . For the polynomial: $ax^2 + bx + c$, check factors of the product ac that give the sum as b .
4. Check for common factors.
5. Polynomials with more than 4 terms: group terms that have common factors.

OK, factor:

$4x^3 + 16x^2 + 16x$	$2x^2y - 2y^3$	$x^2 + 4x + x$
$3x^2 + 7x + 4$	$2p^5 + 10p^4 - 12p^3$	$2x^4 + 18$

Try: (Group terms that you can factor together!)

$$2x^3 + 4x^2 + x + 2$$