

Steps to Factoring

1. Factor out any common monomials

*determine if EVERY term in the polynomial can be divided by something - if so, put that on outside of parentheses, figure out what it needs to be multiplied by to get the original.

2. Look for special cases

A) difference of two squares - easiest to spot

binomial made up of two perfect squares, with minus sign
between them

WHEN FACTORED - is a product of two binomials,
conjugates made up of square roots

B) Difference of two cubes AND Sum of two cubes

WHEN FACTORED - a product of a binomial and a trinomial.

Binomial: two cubed roots, with matching sign between

Trinomial: First root squared (opposite sign) product of two
roots + second root squared

C) perfect square trinomial

first and last terms are perfect squares --

the middle term is the product of the two square roots,
doubled (times 2)

WHEN FACTORED - it's a product of two identical binomials

3) Trial and Error

A) Find the factors of the first and last terms

B) Determine what the signs are, based on the signs in the polynomial

C) Calculate the MIDDLE terms - trying different combinations until
you find the right one

D) When you think you HAVE the answer --

MULTIPLY USING FOIL TO BE SURE