

Factoring



There are 5 different kinds of Factoring:

- Greatest common factor (GCF)
- Factor by grouping ("Pair them up")
- Simple Trinomials (Factor by Inspection)
- Hard Trinomials (Factor by Decomposition)
- Special Factors
 - Difference of Squares
 - Perfect Square Trinomials

II. Factoring Trinomials:

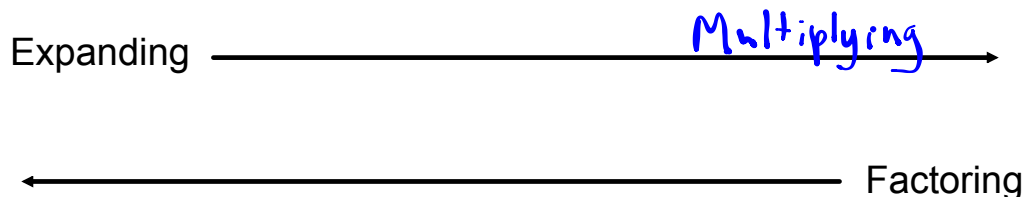
Type 1: Polynomials of the form $x^2 + bx + c$

- Often referred to as "Simple Trinomials"

Expand each of the following:

(a) $(w + 5)(w - 4) = w^2 - 4w + 5w - 20$
 $= w^2 + w - 20$

(b) $(x - 8)(x - 6) = x^2 - 6x - 8x + 48$
 $x^2 - 14x + 48$





Simple Trinomials

- has three terms with the form...

$$ax^2 + bx + c$$

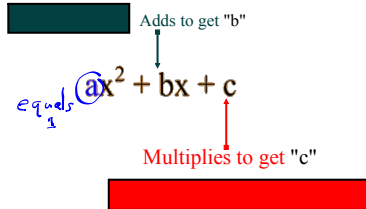
- a simple trinomial has an "a" value of 1.

- we use a method of inspection to factor them.

CHECK IT OUT!!!

INSPECTION METHOD

- here's how it goes... "What two numbers?"



EXAMPLES...

- | | | |
|--|--|--|
| <p>1) $x^2 + 13x - 48$
 $(x + 16)(x - 3)$</p> | <p>M - 48
 A is 1 * 76
 N → 3 * 16</p> | <p>$(x - 3)(x + 16)$
 SOLUTION</p> |
| <p>2) $x^2 - 10x - 24$
 $(x - 12)(x + 2)$</p> | <p>M - 24
 A = -10
 N 1 24
 2 12</p> | <p>$(x - 12)(x + 2)$
 SOLUTION</p> |
| <p>3) $2x^2 - 20x + 42$
 $2(x^2 - 10x + 21)$
 $2(x - 7)(x - 3)$</p> | <p>M + 21
 n - 10</p> | <p>$2(x - 7)(x - 3)$
 SOLUTION</p> |

$2x^2 + 3x + 7$ hard

$x^2 + 5x + 6$ easy

Let's try and factor each of the following trinomials:

$$x^2 + 12x + 32$$

M 32
A 12
N

$$(x+8)(x+4)$$

1	32
2	16
4	8

$$a^2 + 10a - 24$$

M -24
A 10
N +12 -2

$$(a+12)(a-2)$$

$$w^2 - 13w - 30 =$$

M -30
A -13

$$(w-15)(w+2)$$

$$x^2 - 8x + 12$$

M 12
A -8
N -2, -6

$$(x-6)(x-2)$$

Homework...

Worksheet on Simple Trinomials



Attachments

Factoring trinomials a=1.pdf