

What you will learn about:  
Factoring Trinomials

Standard Form of Quadratic

$$\boxed{ax^2 + bx + c}$$

Factoring when a = 1

Steps

- 1) Find numbers that will multiply to constant (c) that will add together to get linear term (b).
- 2) Write as linear factors  $(x \pm p)(x \pm q)$

Write each quadratic as a product of linear factors.

$$(x+5)(x+4)$$

$$x^2 + 5x + 4x + 20$$

$$x^2 + 9x + 20$$

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20
5 · 4
2 · 10
20 · 1

$$(x+5)(x+4)$$

$$x^2 - 10x + 21$$

21
3 · 7
-3 · -7

$$(x-3)(x-7)$$

- If c-value is positive then signs are the same. b-value gives you the signs

$$x^2 - 5x - 24$$

-24
-4 · 6
-6 · 4
-12 · 2
-2 · 12

$$(x-8)(x+3)$$

$$x^2 - 8x + 15$$

15
-5 · -3

$$(x-5)(x-3)$$

- If c-value is negative signs are different

$$x^2 + 9x - 36$$

-36
-9 · 4
-4 · 9
-6 · 6
-18 · 2
-2 · 18

$$(x-3)(x+12)$$

$$x^2 - 5x - 6$$

-6
-1 · 6
-6 · 1
-3 · 2
-2 · 3

$$(x-6)(x+1)$$

$$x^2 + 0x - 36$$

$$x^2 - 36$$

-12 · 3
-3 · 12

$$(x-6)(x+6)$$

$$x^2 - 121$$

$$(x-11)(x+11)$$