

key

Factor $x^2 + bx + c$



WARM – UP YOUR



1) Find the product : $(x - 5)(x + 4)$ $x^2 - 1x - 20$

What if we were given quadratic and asked to UNFOIL IT???

Example 1: Factor (UNFOIL) the following:

$x^2 + 11x + 18$

$a = 1$

$b = 11$

$c = 18$

Factors of <u>18</u>	Sum of factors
1, 18	19
2, 9	11
3, 6	9
-1, -18	-19

Factored Form: $(x+2)(x+9)$



FOIL and check!

$x^2 + 11x + 18$

THE BIG IDEA

$x^2 + bx + c$

Find two numbers whose SUM is equal to b , and whose PRODUCT is equal to c .

$x^2 + 7x + 10$

$\boxed{2} + \boxed{5} = 7$ $\boxed{2} \times \boxed{5} = 10$

SUM

PRODUCT

Example 2:

Factor the following trinomial:

$x^2 + 3x + 2$ $(x+2)(x+1)$

Factored Form: $(x+2)(x+1)$



FOIL and check! $x^2 + 3x + 2$

Example 3:

Factor the following trinomial:

$n^2 - 6n + 8$ $(n-4)(n-2)$

Factored Form: $(n-4)(n-2)$



FOIL and check! $n^2 - 6n + 8$