

Unit 3: Polynomials

Day 4: Trinomial Factoring I

Today we will...

1. Learn how to factor simple trinomials using patterning.

Expand $(x + 5)(x + 2)$

Expand $(x + 4)(x + 1)$

Compare: $(x + s)(x + t)$ to $x^2 + bx + c$.

What do you notice?

Is there a way we can come up with "b", given s and t?

Is there a way we can come up with "c", given s and t?

$(x + s)(x + t)$EXPAND TO GET..... $x^2 + bx + c$.

$x^2 + bx + c$FACTOR TO GET..... $(x + s)(x + t)$.

If we want to factor: $x^2 + 8x + 12$

Then we need to figure out.....

Which two numbers have a sum of _____ and a product of _____?

First.....

factor _____

then determine which two factors give you the desired sum of _____.

Example 1: Factor each trinomial.

a) $x^2 + 7x + 12$

b) $x^2 + 6x + 8$

c) $x^2 + 3x - 4$

d) $x^2 - 3x - 18$

e) $x^2 - 4x - 4$

f) $x^2 - 11x + 24$

Some interesting things about signs.....

TRINOMIAL	FACTORS
b and c are positive $(x^2 + bx + c)$	$(x + r)(x + s)$
b is negative & c is positive $(x^2 - bx + c)$	$(x - r)(x - s)$
b and c are negative $(x^2 - bx - c)$	$(x - r)(x + s)$, where $r > s$
b is positive & c is negative $(x^2 + bx - c)$	$(x + r)(x - s)$, where $r > s$

Practice !

Worksheet
(and p. 307 #2 for additional practice)

Attachments

Factor_Trinomial.pdf