Key

Unit 7 Day 9 Notes on Difference Of Two Squares

Recall from the first part of the unit that in most cases, a product of two linear binomials yields a quadratic trinomial. ax^2+bx+c ( )( )

For example: $(x-1)(x+2)$ = $x^2+2x-1x-2$

x^2+x-2

But, in one special case that doesn't happen: $(x-2)(x+2)$ ← CONJUGATES!

$x^2+2x-2x-4$

x^2-4

Look at these:

1) x^2-4 (perfect square $x\cdot x$; perfect square $2\cdot 2$)

$(x+2)(x-2)$

2) b^2-9 ($b\cdot b$; $3\cdot 3$)

$(b+3)(b-3)$

3) w^2-1 ($w\cdot w$; $1\cdot 1$)

$(w+1)(w-1)$

To use D.O.T.S. we must have:

1. 2 perfect squares *and* 2. subtraction

General Form: $a^2 - b^2$ = $(a+b)(a-b)$

Let's Practice! *Don't forget to pull out a GCF (if possible).* ★

4) $4x^2-25$ ($2x\cdot 2x$; $5\cdot 5$)

$(2x+5)(2x-5)$

5) $5h^2-45$ GCF!

$5(h^2-9)$

$5(h+3)(h-3)$

6) $1-x^2$

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

7) $36-c^2$

$(6+c)(6-c)$

8) w^4-9w^2 GCF!

$w^2(w^2-9)$

$w^2(w+3)(w-3)$

9) $49k^2-81$ ($7k\cdot 7k$; $9\cdot 9$)

$(7k+9)(7k-9)$