Secondary 2
lesson 0.7

Multiplying Polynomials (Special Cases)

Objective:

By the end of the lesson you will be able to multiply polynomials using special cases (identities).

Review – Multiplying Polynomials

Last lesson we multiplied binomials. We do this by using the distributive property twice:

Examples:

1) $(x+7)(x-3)$

2) $(x-9)(x-2)$

What is special about this problem?

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

Special Cases for Multiplying Polynomials

Some types of problems occur so often when multiplying polynomials that it makes sense to have shortcuts.

These shortcuts are pre-formated 'looks' called identities.

The special case we will start with is Difference of Squares.

$Example$:

4) $(n+3)(n-3)$

5) $(2n+9)(2n-9)$

Simplify the following:

6) $(x+5)(x-5)$

7) $(3x+1)(3x-1)$

8) $(2x+3y)(2x-3y))$

9) $(10x-y^3)(10x+y^3)$

Special Cases for Multiplying Polynomials

The next special case we will look at is Perfect Square Binomials.

Simplify the following:

10) $(k+5)^2$

11) $(k-8)^2$

12) $(x+4)^2$

13) $(x-7)^2$

Simplify the following:

14) $(2a + 5b)^2$

15) $(a - 6b)^2$

16) $(2x + y)^2$

17) $(x - 4y)^2$

Wrap up

Can you multiply polynomials: ( )( )?

Do you recognize the Difference of Squares?

Do you recognize Perfect Square Binomials?

Assignment - Due next class

Packet 0.7

and 0.7 MathXL