

Multiplying Polynomials #10 Notes

**Remember that x^2 is just $x \cdot x$, and 4^2 is just $4 \cdot 4$.

Example 1: Square of a Sum

$$(4y + 5)^2$$

** To say that $4y + 5$ is squared just means that we are going to multiply it by itself.

$$(4y + 5)(4y + 5)$$

$$(4y + 5)(4y + 5)$$

$$16y^2 + 20y + 20y + 25$$

$$16y^2 + 40y + 25$$

**Don't change exponents when you add like terms!

Example 2: Square of a Sum

$$(8c + 3d)^2$$

** To say that $8c + 3d$ is squared just means that we are going to multiply it by itself.

$$(8c + 3d)(8c + 3d)$$

$$(8c + 3d)(8c + 3d)$$

$$64c^2 + 24cd + 24cd + 9d^2$$

**When you are multiplying two unlike variables together, put them in alphabetical order. Remember that it doesn't actually matter which order they go in $cd = dc$. It just makes like terms look more alike if we always put variables in alphabetical order.

$$64c^2 + 48cd + 9d^2$$

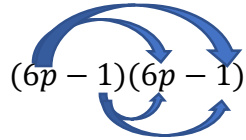
**Don't change exponents when you add like terms!

Example 3: Square of a Difference

$$(6p - 1)^2$$

** To say that $6p - 1$ is squared just means that we are going to multiply it by itself.

$$(6p - 1)(6p - 1)$$


$$(6p - 1)(6p - 1)$$

$$36p^2 - 6p - 6p + 1$$

$$36p^2 - 12p + 1$$

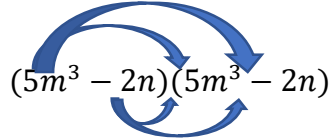
**Don't change exponents when you add like terms!

Example 4: Square of a Difference

$$(5m^3 - 2n)^2$$

** To say that $5m^3 - 2n$ is squared just means that we are going to multiply it by itself.

$$(5m^3 - 2n)(5m^3 - 2n)$$


$$(5m^3 - 2n)(5m^3 - 2n)$$

$$25m^6 - 10m^3n - 10m^3n + 4n^2$$

**Remember that when we multiply $m^3 \cdot m^3$, we add exponents (the same way that $n \cdot n = n^2$). Also, remember that when you are multiplying two unlike variables together, put them in alphabetical order.

$$25m^6 - 20m^3n + 4n^2$$

**Don't change exponents when you add like terms!

Video Link: <https://www.youtube.com/watch?v=4GcNzvILqtM>

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