

6.4 Mixed Simplifying

When simplifying polynomial expressions, it is important to **THINK FIRST!!!**

What operations do you see?

Do you have monomials? Binomials? Trinomials?

Is FOIL required?

DON'T JUST GO FROM LEFT TO RIGHT!!!

PEMDAS

Examples: Discuss how you would go about simplifying the following expressions.

$$\begin{array}{ll}
 1. (a-b)^2 - (a+b)^2 & 2. 5 - 3(x-4)(x+3) \\
 \text{FOIL} & \text{FOIL} \\
 \text{(trinomial)} - \text{(trinomial)} & 5 - 3(\text{trinomial}) \\
 \text{Keep signs} & \text{change signs} & \text{distribute} \\
 \text{Combine like terms} & & \text{Combine like terms} \\
 3. (3x^5y^4)^3 & 4. (-7cd^4)(-c^8d^3) \\
 \text{*share the exponent} & \text{*regroup \& multiply} \\
 \text{NOT a BINOMIAL} & \text{NOT FOIL}
 \end{array}$$

$$5. 4x(x-3) + (2x+3)(x-2) \\
 \text{distribute} \quad \text{FOIL} \\
 \text{(binomial)} + \text{(trinomial)} \\
 \text{Keep signs} \quad \text{Keep signs} \\
 \text{Combine like terms}$$

$$6. (6n^3)^2 + (4n^4)(2n^2) \\
 \text{Share the exponent} \quad \text{Multiply} \\
 \text{NO FOIL}$$

$$7. 6x - [2 - (8x - 3)] \\
 \text{change signs} \\
 \text{change signs} \\
 \text{Combine like terms}$$

$$8. (b^2 + 3b + 9) - (5b^2 - b + 3) \\
 \text{Keep signs} \quad \text{change signs} \\
 \text{Combine like terms} \\
 \text{*NOT SUPERFOIL}$$

$$9. (c+4)(c-3) - (c-4)(c+1) \\
 \text{FOIL} \quad \text{FOIL} \\
 \text{(trinomial)} - \text{(trinomial)} \\
 \text{Keep signs} \quad \text{change signs} \\
 \text{Combine like terms}$$

$$10. (2d-5)(d+4)(d-1) \\
 \text{FOIL} \\
 \text{(trinomial)}(d-1) \\
 \text{SUPERFOIL}$$

HOMEWORK

Worksheet - HW 6.4 Mixed Simplifying