

Today's Plan:

Learning Target (standard): I will multiply polynomials and put the product in descending order.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

NAME _____

BELL RINGER



1) Simplify.

$$-2(x^2 - 2x + 3) - 4(3x + 5)$$

$$\underline{-2x^2 + 4x - 6} - \underline{12x - 20}$$

$$\underline{-2x^2 - 8x - 26}$$

2.) Evaluate $x^2 - 5x + 4$. when $x = -1$.

$$(-1)^2 - 5(-1) + 4$$

$$1 + 5 + 4$$

$$6 + 4$$

$$\textcircled{10}$$

3.) Solve $4x - 1 = 2x + x + 9$.

$$4x - 1 = 3x + 9$$

$$x - 1 = 9$$

$$\textcircled{x = 10}$$

Find the product.

$$6) (\underline{2x^2} - \underline{4x} - \underline{7})(4x - 5)$$

$$2x^2(4x-5) - 4x(4x-5) - 7(4x-5)$$

$$8x^3 - \underline{10x^2} - \underline{16x^2} + \underline{20x} - \underline{28x} + 35$$

$$8x^3 - 26x^2 - 8x + 35$$

Find the product.

$$14) (\underline{3x^2} - \underline{7xy} + \underline{5y^2})(-7x - 3y)$$

$$3x^2(-7x-3y) - 7xy(-7x-3y) + 5y^2(-7x-3y)$$

$$-21x^3 - \underline{9x^2y} + \underline{49x^2y} + \underline{21xy^2} - \underline{35xy^2} - 15y^3$$

$$-21x^3 + 40x^2y - 14xy^2 - 15y^3$$

On the back of your bell ringer, describe the 3 properties of exponents. Be sure to include an example of each property.

1) combine like terms

- same variables with matching exponents
- coefficients can be different
- add/subtract coefficients keeping the variable(s) and exponent(s) the same

$$\begin{array}{r} \underline{3x^2} - \underline{2x} + \underline{4x^2} - \underline{6x} + \underline{5} \\ 7x^2 - 8x + 5 \end{array}$$

2) multiplying variables

- same variable
- exponents do NOT need to match
- coefficients can be different
- add the exponents

$$\begin{array}{r} \underline{-3x^3} \underline{y^2} \underline{z} \cdot \underline{6x} \underline{y^3} \underline{z^4} \\ \underline{-18x^4} \underline{y^5} \underline{z^5} \end{array}$$

3) raising a power to a power

- exponent on outside of parentheses
- everything inside the parentheses gets the exponent, including the coefficient
- exponents are multiplied
- coefficient is raised to the power, not multiplied

$$(3x^2y^3z)^4$$

$$81 \boxed{3^4} x^8 y^{12} z^4$$

$$81x^8y^{12}z^4$$

Simplify.

$$(2-x)(3+5x-4x^2)$$

$$2(3+5x-4x^2) - x(3+5x-4x^2)$$

$$6 + 10x - 8x^2 - 3x - 5x^2 + 4x^3$$

$$4x^3 - 13x^2 + 7x + 6$$

Simplify.

$$\begin{aligned}
 & (5x^3y^5z^2)^2 (-2x^7y^3z^5)^3 \\
 & \boxed{5^2} x^6 y^{10} z^4 \cdot \boxed{(-2)^3} x^{21} y^9 z^{15} \\
 & \underline{25} x^6 y^{10} z^4 \cdot \underline{-8} x^{21} y^9 z^{15} \\
 & -200 x^{27} y^{19} z^{19}
 \end{aligned}$$

Simplify.

$$\begin{aligned}
 & (\underline{x^3} - \underline{3x} + \underline{1})(4x^2 + 5x - 2) \\
 & x^3(4x^2 + 5x - 2) - 3x(4x^2 + 5x - 2) + 1(4x^2 + 5x - 2) \\
 & \underline{4x^5} + \underline{5x^4} - \underline{2x^3} - \underline{12x^3} - \underline{15x^2} + \underline{6x} + \underline{4x^2} + \underline{5x} - \underline{2} \\
 & 4x^5 + 5x^4 - 14x^3 - 11x^2 + 11x - 2
 \end{aligned}$$

Simplify.

$$(-2x^3y^7)^4(-3x^3y^8z^6)^2$$

$$\boxed{(-2)^4}x^{12}y^{28} \cdot \boxed{(-3)^2}x^6y^{16}z^{12}$$

$$16x^{12}y^{28} \cdot 9x^6y^{16}z^{12}$$

$$144x^{18}y^{44}z^{12}$$

Simplify.

$$-2(5x+2y-z+2)+3(7x+y-3z+3)-(-2x-5y+4z-1)$$

$$-10x-4y+2z-4+21x+3y-9z+9+2x+5y-4z+1$$

$$13x+4y-11z+6$$

Simplify.

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

$$(\underline{2x+y})(\underline{2x+y})$$

$$2x(2x+y) + y(2x+y)$$

$$4x^2 + \underline{2xy} + \underline{2xy} + y^2$$

$$4x^2 + 4xy + y^2$$

Simplify.

$$(\underline{3x^2} - \underline{2xy} + \underline{y^2})(2x + y)$$

$$3x^2(2x+y) - 2xy(2x+y) + y^2(2x+y)$$

$$\underline{6x^3} + \underline{3x^2y} - \underline{4x^2y} - \underline{2xy^2} + \underline{2xy^2} + y^3$$

$$6x^3 - x^2y + y^3$$

Simplify.

$$(-3x^2y^6z)(-3x^7y^2z^3) - (4x^4y^4z^2)(3x^5y^4z^2)$$

$$9x^9y^8z^4 - 12x^9y^8z^4$$

$$-3x^9y^8z^4$$

Assignment:

Edulastic Post-Test Polynomials

This will be graded for accuracy!