Today's Plan:

Learning Target (standard): I will classify polynomials based on their degree and number of terms. I will combine like terms and put polynomials in descending order.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make neccessary 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 accuarcy 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.

1) degree: 4, 2 terms

Name: quartic binomial

2) $3x^3 - 2x^2 - 1$ degree: 3

Name: cubic trinomial

3) $x^4y^4 - 5x^3y^3 + 3x^2y^2 - 4xy$ (8, 6, 4, 2)

degree: 8

Name: 8th degree polynomial

Simplify.

$$9)\left(3p^3+p^4-5p+3\right)-\left(7+7p^4+5p^3\right)-\left(3p^3-6-6p^4\right)$$

$3p^3+p^4-5p+3-7-7p^4-5p^3-3p^3+6+6p^4$

$-5p^3-5p+2$

degree: 3

name: Cubic trinomial

Simplify.

$$a^2+3ab-4ab+3a^2$$

$4a^2-ab$

State the degree of the polynomial. Name it.

$x^6 - 9x^7 + 2x - 1$ degree: 7

name: 7th degree polynomial

$m^5 + 4m^2 - m + 7m^8$ degree: 8

name: 8th degree polynomial

$3r^3s^5 - 3rs^2 + 5r^2s^4$ degree: 8

3+5 1+2 2+4

8 3 6

name: 8th degree trinomial

State the degree of the monomial. Name it.

$-6x^4y^5z$ degree: 4+5+1 = 10

name: 10th degree monomial

$2m^3n^4p^5r^9$ degree: 3+4+5+9 = 21

name: 21st degree monomial

$-4x^3yz$ degree: 3+1+1 = 5

name: quintic monomial

Rules for Exponents:

$1) x^m \cdot x^n = x^{m+n}$ $2x+3x=5x$

$x^3 \cdot x^2 = x \cdot x \cdot x \cdot x \cdot x = x^5$

* If the bases are the same when multiplying, keep the base and add the exponents. *

$2) \left(x^m\right)^n = x^{mn}$

$(x^2)^3 = x^2 \cdot x^2 \cdot x^2 = x \cdot x \cdot x \cdot x \cdot x \cdot x = x^6$

$(x \cdot x)^3 = (x \cdot x)(x \cdot x)(x \cdot x) = x^6$

* If raising a power to a power, keep the base and multiply the exponents. *

Simplify.

$n^3 \cdot n^8 = n^{11}$

$x^4 \cdot x^7 \cdot x^5 = x^{16}$

$x^2 \cdot y^3 \cdot z \cdot x^5 \cdot y \cdot z^4 = x^7 y^4 z^5$

Simplify.

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

$4x^4y^3z^6 \cdot -8x^6y^2z^1$

$-32x^{10}y^5z^7$

Simplify.

$$\left(4x^3y^2z^5\right)^3$$

$4^3x^9y^6z^{15}$

$64x^9y^6z^{15}$

Simplify.

$$\left(5x^4y^6\right)^3\left(-2xy^3\right)^2 =$$

$5^3x^{12}y^{18}\cdot(-2)^2x^2y^6$

$125x^{12}y^{18}\cdot 4x^2y^6$

$500x^{14}y^{24}$

Simplify.

$$\left(-2a^2b^2c\right)^3 \cdot \left(3a^4bc^3\right)^2$$

$(-2)^3 a^6 b^6 c^3 \cdot 3^2 a^8 b^2 c^6$

$-8a^6b^6c^3 \cdot 9a^8b^2c^6$

$-72a^{14}b^8c^9$

Assignment:

Exponents

#1-14