

Chapter 5 and 7 - Polynomials

LESSON 10: REVIEW OF CHAPTER 7

Multiplying & Dividing Monomials

- Multiplication:**
1. Multiply the coefficients
 2. Add the exponents

Ex.1: Multiply

a) $(3x)(4x)$

b) $(-2x^2)(3x^4)$

c) $(-6ab^2c^2)(-a^2b^4)$

d) $-4x^2y(-2xy^4)(6x^3)$

- Division:**
1. Divide/reduce the coefficients
 2. Subtract the exponents

Ex.2: Simplify

a) $\frac{24x}{3}$

b) $\frac{16x^5}{-8x^2}$

c) $\frac{10x^3y^2}{5y^2}$

d) $\frac{15a^8b^2c^2}{10a^5b^2c}$

e) $\frac{6a^3b^2}{2a^2b^4}$

f) $\frac{-12x^2y^4z}{3x^6yz^3}$

Multiplying and Dividing Monomials with Polynomials

Multiplication: Use the distributive property to expand $\rightarrow a(b + c) = ab + bc$ (i.e. multiply each term of the polynomial by the monomial)

Ex.3: Multiply

a) $2x(x - 3)$

b) $-2x^2(3x^2 - 2y^2 + 4xz^2)$

c) $(d^2 - e)(-de)$

d) $-t(s^2t - 7s + 5t^3)$

Division: Divide each term in the polynomial by the monomial

Ex.4: Divide

a) $\frac{-10x - 25y}{-5}$

b) $\frac{6x^2 - xy}{x}$

c) $\frac{9xy^2 - 6x^2y - x^2y^2}{-3xy}$