MATH 1010 ~ Intermediate Algebra

Chapter 6: RATIONAL EXPRESSIONS, EQUATIONS AND FUNCTIONS

Section 6.5: Dividing Polynomials

Objectives:

- Divide polynomials by monomials and simplify.
- Use long division to divide polynomials by polynomials.

$$\frac{x^3-3x^2-2x+1}{x-2}$$

Divide by a monomial.

a) $(x^3 + x - 2) \div x^3$

b) $\dfrac{18x^4 - 24x^2}{-6x}$

Divide by a binomial.

a) $\dfrac{x^2 - 8x + 15}{x - 3}$

b) $\dfrac{x^2 + 10x - 9}{x - 3}$

c) $\dfrac{4y^3 + 12y^2 + 7y - 3}{2y + 3}$

d) $\dfrac{x^5 + 1}{x^2 + 1}$

Perform this more complex division.

$$\frac{2x^3 + 2x^2 - 2x - 15}{2x^2 + 4x + 5}$$