

Name _____
Date _____

Introduction to Technical Mathematics
Class #3A

Chapter 3.5: Division of Algebraic Expressions

Quality – Accuracy – Transfer – 100%

Section 1. Division of Monomials

1. The quotient rule for monomials: _____

2. Practice Set #1 – Using Cross-Cancellation:

a. $\frac{3xy}{ax}$

b. $\frac{3xy}{6x}$

c. $\frac{x}{ax}$

3. Practice Set #2

a. $\frac{15a}{10abc}$

b. $\frac{4x}{6xy}$

c. $\frac{3x^2y}{xy}$

d. $\frac{5a^2bc}{10ab}$

e. $\frac{6(x+y)^2}{3(x+y)}$

4. Division Rules and Exponents:

a. $\frac{a^5}{a^2}$

b. $\frac{a^2}{a^5}$

c. $\frac{a^5}{a^5}$

a./ $\frac{x^4}{x^3}$

b. $\frac{3c^6}{c^2}$

c. $\frac{x^3}{x^4}$

5. And then finally, finding quotients of Monomials – An Accepted Procedure.

WORK:

a. $-16a^2b \div 4a$

b. $36a^2b^3 \div (-12ab)$

c. $-18x^3y \div (-12xy^4)$

d. $-8ab^2x^5 \div (-14a^2b^2x)$

Section 2. Division of a Polynomial by a Monomial

WORK:

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

b. $(4x^2y + 2xy^3) \div 2xy$

c. $(7a^3b^2 - 28a^3b^3 + 35a^2b^2) \div (-7ab^2)$

Section 3. Division of a Polynomial by a Polynomial

a. Divide: $2x^2 + 5x - 3$ by $2x - 1$

b. Divide: $x^3 + 3x^2 - 4x - 12$ by $x + 2$

Note: In each of the two previous examples, the divisor was a polynomial in standard descending order of powers. There were no missing terms.

a. Divide: $4x^3 + 6x^2 + 1$ by $2x - 1$

ONE MORE: A “Classic” Division Problem

b. $\frac{x^3 - 8}{x - 2}$

Homework Section:

Section(s)	Page(s)	Problem(s)
3.5	105 – 106	1, 3, 5, 11, 15, 19, 27, 35, 39

Next Class: Test #1