

Spring, 1999
Peterson

MATH 105.

Homework 6.

DUE: Friday, March 5, 1999

P1. Assume that $a > 0$, $b > 0$, and $c > 0$. Simplify the following expressions. Final answers must not involve negative exponents. All fractions need to be in reduced form.

(1) $(2a^{-1}b^{-3}c)^{-2}(4ab^{-1}c)^3$.

(2) $\frac{a^{-1}bc^{-2}}{a^{-5}b^3c}$.

(3) $\frac{(2ab^{-2}c)^3(a^{-2}b^4c^{-1})}{2a^4b^{-3}c^{-2}}$.

(4) $\frac{5a^{-2}b^{-3}c}{4a^{-4}bc^{-2}} \frac{8ab^{-2}c^4}{15a^4bc^3}$.

(5) $\left(\frac{a^{-1}}{bc^2}\right)^{-3} a^{-2}b^4c^{-3}$.

P2. Write each of the following in scientific notation:

(1) 23872.01. (2) .0000213

P3. Simplify the expression $\frac{(2 \cdot 10^{-2})^4(70 \cdot 10^{-3})}{(.0035)(.0002)(.0004)}$.

P4. Write each of the following in standard polynomial form.

(1) $(x^3 + 5x^2 - 2x + 3) + (2x^2 + 4x - 7)$.

(2) $(x^3 + 5x^2 - 2x + 3) - (2x^2 + 4x - 7)$.

(3) $3(x^2 - 5x + 1) - 2(x^2 - 6x - 3)$.

(4) $(x + 2)(x - 7)$.

(5) $(x - 4)(x - 5)$.

(6) $(x + 8)(x + 3)$.

(7) $(2x - 3)(x + 4)$.

(8) $(3x + 7)(2x + 5)$.

(9) $(2x - 3)(x^2 - 4x - 2)$.

(10) $(x^2 - 3x - 2)(x^2 + 5x - 3)$.

