BE - Algebra I Tuesday 12-2-08

① Write (from memory) the six Exponent rules.

② $(-6)^{-2} = ?$

③ $\left(\frac{1}{10}\right)^{-1} = ?$

④ $\frac{46x^2y^0}{5x^{-4}}$

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* Homework review: Pg. 421 #4-12

POLYNOMIAL — A MONOMIAL OR A SUM OF MONOMIALS

(MANY)

EXAMPLES

	SPECIAL NAME	
$4x^2y^5z$	MONOMIAL	or POLYNOMIAL
$2x^5 - 3yz$	BINOMIAL	or POLYNOMIAL
$3x^4 + 2y - 6$	TRINOMIAL	or POLYNOMIAL
$5x - 2y + 6z - 8$	4-term POLYNOMIAL	or POLYNOMIAL

$5x - 2x + 3y$

$3x + 3y$ — BINOMIAL or POLYNOMIAL

Polynomial? Yes or No. Why not? Does it have a special name? If so, what?

-14 Yes, monomial.

$2x - 3yz$ Yes, binomial.

$8n^3 + 5n^{-2}$ No, since $5n^{-2} = \frac{5}{n^2}$ and division by the variable means $5n^{-2}$ is NOT a monomial. ∴ $8n^3 + 5n^{-2}$ is NOT the sum of monomials.

$7x + 3x - 4y + 2$ Yes, trinomial since $7x + 3x = 10x$ so $10x - 4y + 2$!!!

DEGREE OF A MONOMIAL — THE SUM OF THE EXPONENTS OF ALL ITS VARIABLES

(Ex) $4x^2$ Degree 2 | 3^2xyz^5 Degree 7 | 5^5 Degree 0

DEGREE OF A POLYNOMIAL — THE SAME AS THE DEGREE OF ITS highest MONOMIAL

(Ex) $3x^4 + 2xyz + 6b^5$

Degree 5

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ascend — go up ↗

descend — go down ↘

THE NORMAL WAY TO WRITE A POLYNOMIAL TO PUT THE highest degree MONOMIAL first, then go in descending order by degree.

(EX) $5x + 3y^2 + 8x^5 + 6$

REWRITE: $8x^5 + 3y^2 + 5x + 6$

IF ASKED to PUT IN ASCENDING order by degree, reverse the above list but this would NOT be A NORMAL WAY OF WRITING THE POLYNOMIAL.

Ch. 8-4, Polynomials

Ex 3 Pg 433 Find the degree of each polynomial:

(A) $5mn^2$

(b) $-4x^2y^2 + 3x^2 + 5$

(c) $3a + 7ab - 2a^2b + 16$

Homework: Pg 434-435

15-20

25-33

37, # 45

Challenge Problem: # 24