

① Write (from memory) the six exponent rules.

②  $(-6)^{-2} = ?$

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

④ 
$$\frac{46x^2y^0}{5x^{-4}}$$

⑤ Define monomial

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\* Flash cards?

\* Exam 2 Thurs.

POLYNOMIAL  
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MANY

A MONOMIAL OR A  
SUM OF MONOMIALS

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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?

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$$-14$$

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  
EXONENTS OF ALL  
ITS VARIABLES

|      |        |            |        |
|------|--------|------------|--------|
| (EX) | $4x^2$ | $3^4xyz^5$ | $5^5$  |
|      | degree | degree     | degree |
|      | 2      | 7          | 0      |

DEGREE OF A POLYNOMIAL      THE SAME AS THE  
DEGREE OF ITS  
highest monomial

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

Degree 5

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.

Ⓔ  $5x + 3y^2 + 8x^5 + 6$

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

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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.

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## Ch. 8-4, POLYNOMIALS

EX 3 Find the degree of  
Pg 433 EACH POLYNOMIAL:

Ⓐ  $5mn^2$

Ⓑ  $-4x^2y^2 + 3x^2 + 5$

Ⓒ  $3a + 7ab - 2a^2b + 16$

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Homework: Pg 434-435

# 15-20

# 25-33

# 37, # 45

Challenge Problem: # 24