5-5 Polynomials

polynomials - an algebraic expression with many terms

binomial - polynomials with 2 terms

ex. $2x + 3$

trinomial - polynomial with 3 terms

ex. $x^2 + 3x + 7$

monomial - 1 term (from yesterday)

Key Questions:

Is 3 a trinomial?

No

Is 3 a polynomial?

Yes.

Is 3 a monomial?

Yes

Tell whether each expression is a polynomial. If it is a polynomial, identify it as a monomial, binomial, or trinomial.

$4x^2 + 9x + 4$

Yes. Trinomial

$4xy^3 + a^5b^5$

Yes. Binomial

$\frac{y}{x^2} - x^2$

No.

$\frac{1}{2}xy^4 + 7xy$

Yes. Binomial

Collect Like Terms

1.) $3ab + 7ab + 2ab$

$12ab$

2.) $7xy + 3x^2y^3 + 4xy - x^2y^3$

$11xy + 2x^2y^3$

Coefficient - number in front of a variable (or number standing alone)

Identify the terms. Give the coefficient of each term

$4x^3y^2 - 3y^4z^2 + 5$

Terms: $4x^3y^2$; $-3y^4z^2$; 5

Coeff: 4; -3; 5

Degree of a Term - the sum of exponents of the variables

$8a^4b^2$ = $4+2=6$

$3ab$ $1+1=2$

5 0

Degree of a Polynomial - highest degree of its terms.

$8a^4b^2 + 3ab + 5$

Deg. of T: 6 2 0

Deg. of Poly: 6

Identify the degree of each term of $5x^4y^3 - 2x^2y^4 + 3$. Give the degree of the polynomial.

$5x^4y^3 - 2x^2y^4 + 3$

Degree of terms $4+3$ $2+4$ 0

7 6 0

Degree of Poly: 7

p. 224 2-40 even