Name Key Date Hour

Section 6.2 – Simplifying Polynomials

Algebra 2 Trig

What is a polynomial? a monomial or a sum of monomials

* cannot contain variables in the denominator, variables w/ negative exponents, or variables under radicals

1) Are these polynomials?

a) $x+3\sqrt{x}$ no

b) $4x+3x^{-1}+z$ no

c) $\frac{-2}{3}x^3y^4+z^5$ yes

d) $3x^2+2x-1$ yes

Identifying Polynomials - Always use TWO words

1st Word

Degree	Name	Example
0	constant	-10
1	linear	$5x+2$
2	quadratic	$6x^2$
3	cubic	$7x^3-4x^2+x-8$
4 or more	#th degree	$2x^{10}+4x^7-9x$

2st Word

Number of Terms	Name	Example
1	monomial	$3x^4$
2	binomial	x^2+8
3	trinomial	x^3+2x-1
4 or more	polynomial	$x^{10}-3x^5+4x^3-6x^2+8x+10$

2) Name the polynomials (use 2 words).

a) $2x^3-5$ cubic binomial

b) y^4 4th degree monomial

c) x^2-3x+7 quadratic trinomial

d) $3x^5+2x^2-7x+1$ 5th degree polynomial

e) $3x+13$ linear binomial

f) t^2 quadratic monomial

g) w^7-3w 7th degree binomial

Simplifying Polynomials

a) $(2x+5y)+(-3x+4y)$ combine like terms

$-1x+9y$

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

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

$2x^2-6x+5$

c) $-2x\left(-3x^2+5x+\frac{1}{2}\right)$

$6x^3-10x^2-x$

d) $(3x+2)(5x-4)$ FOIL

$15x^2-12x+10x-8$

$15x^2-2x-8$

e) $(2x+y)(x^2-5xy+y^2)$

$2x^3-10x^2y+2xy^2+x^2y-5xy^2+y^3$

$2x^3-9x^2y-3xy^2+y^3$