Warm Up

Polynomial Example (write in standard form)	Degree	Name Using Degree	# of Terms	Name Using # of terms
$4x^2$	2	quadratic	1	monomial
$4x - 6x + 5$ $-2x+5$	1	linear	2	binomial
$3x^3 + x^2 - 4x + 2x^3$ $5x^3+x^2-4x$	3	cubic	3	trinomial
$(2c^2 + 9) - (3c^2 - 7)$ $-c^2+16$	2	quadratic	2	binomial
$(7x^3 + 9x^2 - 8x + 11) - (5x^2 - 13x - 16)$ $7x^3+4x^2+5x+27$	3	cubic	4	polynomial
$4b(b-3)^2$ $4b^3-24b^2+36b$ $4b(b^2-6b+9)$	3	cubic	3	trinomial
$(x+3)(4x-1)(3x+7)$ $12x^3+61x^2+68x-21$	3	cubic	4	polynomial
$3x^2(2x-3)(x+1)$ $6x^4-3x^3-9x^2$	4	quartic	3	trinomial
x^5	5	quintic	1	monomial

Find the notes on your table and start working :)

Monomial–an expression that is a real number, a variable, or a product of real numbers and variables

Polynomial–a monomial or the sum of monomials

Degree of a term–the exponent of the variable. The degree of a monomial is the sum of the exponents of the variables. For a nonzero constant, the degree is 0. The degree of a polynomial is the degree of the monomial with the greatest degree.

Standard Form of a Polynomial–the terms of the polynomial are put in descending order by their degree.

Use a graphing calculator to determine whether a linear, quadratic, or cubic model best fits the data.

x	0	5	10	15	20
y	10.1	2.8	8.1	16.0	17.8

$y = -.012x^3 + .433x^2 - 3.3x + 10.081$

The table below shows the world gold production for several years. Find the quartic function to model the data. Use it to estimate production in 1988. Let 0 represent 1975.

year	1975	1980	1985	1990	1995	2000
production (millions of troy ounces)	38.5	39.2	49.3	70.2	71.8	82.6

$y = .0009x^4 - .052x^3 + .959x^2 - 3.9x + 38.858$

61.96 millions of troy oz.

The table below shows the number of employees that a small company had from 1975 to 2000. Find the cubic function to model the data. Use it to estimate the number of employees in 1998. Let 0 represent 1975.

year	1975	1980	1985	1990	1995	2000
# of employees	60	65	70	60	55	64

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