MATH 3
UNIT 2
POLYNOMIALS

Name _____

Period _____ Date _____

Classifying Polynomials

Polynomials can be classified (named) by the **number of terms**.

Polynomial	Number of terms	Name
$3x^2$	1 term	*monomial*
$5x-8$	2 terms	*binomial*
$4x^2-9x-10$	3 terms	*trinomial*

Polynomials can also be classified by the **degree** (largest exponent of the variable).

Polynomial	Degree	Name
-24	0 degree (no power of x)	*constant*
$2x-8$	1st degree (x to the 1st power)	*linear*
$3x^2-7$	2nd degree (x^2)	*quadratic*
$12x^3+10$	3rd degree (x^3)	*cubic*

DIRECTIONS: Complete the table below.

	Polynomial	Standard Form	Degree	Number of Terms	Name
1.	$3-7x-9x^2$	$-9x^2-7x+3$	2nd	3	*quadratic trinomial*
2.	$5-6x^3$	$-6x^3-5$	3rd	2	cubic binomial
3.	-4	-4	0	1	constant monomial
4.	$-10+5x$	$5x-10$	1st	2	linear binomial
5.	$8x-2-6x^3$	$-6x^3+8x-2$	3rd	3	cubic trinomial

DIRECTIONS: **Add** the polynomials. Write the answer in standard form.

6. $(5x^2+8x-10)+(-12-x+3x^2)$

$8x^2+7x-22$

7. $(8x-x^3+4-9x^2)+(7x^3+9x^2-10-8x)$

$6x^3-6$

Classifying Polynomials

Classifying by degree:	**Classifying by terms:**
degree of 0 – constant	**1 term – monomial**
degree of 1 – linear	**2 terms – binomial**
degree of 2 – quadratic	**3 terms – trinomial**
degree of 3 – cubic	**4 or more terms – polynomial**
degree of 4 – quartic	
degree of 5 – quintic	

Classify the polynomial by degree and the number of terms.

1. $4x - 5$

linear binomial

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

quartic polynomial

3. $7x - 5x^2 - x^5$

quintic trinomial

4. 8

constant monomial

5. $6x^3$

cubic monomial

6. $-3 + 4x^5 - 7x + x^3 + 8x^2$

quintic polynomial

7. $8x^2yz - 7xyz + 3x^2y^3$

cubic trinomial

8. $6a^2bc + 4abc$

quadratic binomial