Name _____ Date _____ Class _____

Review: Module 17
Lesson 17.1 Classifying Polynomials, Lesson 17.2 Adding Polynomials, Lesson 17.3 Subtracting Polynomials

Vocabulary – Know the full definitions.

MONOMIAL **POLYNOMIAL** **DEGREE OF A POLYNOMIAL**

STANDARD FORM OF A POLYNOMIAL **LEADING COEFFICIENT**

BINOMIAL **TRINOMIAL**

1. Rewrite the following polynomial in *standard form*: $5x - 4 - 3x^4 + 2x^2$

2. What is the *constant term* in the previous polynomial?

3. What is the *leading coefficient* of each of the following polynomials?

   a. $2x^4 + 7x^2 - 18$ b. $-x^3 + 2x^2 - 5x + 13$

4. What is the *degree* of the following polynomial: $-8x - 3x^5 + 10 + 6x^4$

5. Classify the polynomial by *number of terms* (give the word):

   a. $2x^4 + 7x^2 - 18$ b. $-5x + 13$

6. Classify the polynomial by *degree* (give the word):

   a. $2x^2 - 3x + 8$ b. $-5x^3 + 1$

7. Circle the problems that are in **standard form**. If it is not in standard form, re-write in standard form.

a. $x^3 - 11x^2$ b. $2 + 3x + 4x^2 + 3x^3$ c. $-3x + 17x^4 + 2x^2$ d. $-1 + 3x + 2x^2$

_____ _____ _____ _____

8. Given: $2x^3 - 5x^2 - 2x + 12$

How many terms are there? ____ What is the coefficient of the 3rd term? ____ What is the constant? ____

Match the term with its description

9. _____ binomial
10. _____ standard form
11. _____ leading coefficient
12. _____ monomial
13. _____ degree of a polynomial
14. _____ constant term
15. _____ trinomial

a. A polynomial with only one term.

b. The number that does not multiply any power of x.

c. A polynomial with two terms.

d. Written with terms in descending order, from largest degree to smallest degree.

f. The value of the sum of the exponent of the variables in a term

g. The number in front of the first term of a polynomial.

h. A polynomial with three terms.

16. Write at least 3 reasons why an algebraic expression would not be classified as a polynomial. Give an example of each.

a. _____

b. _____

c. _____

17. Circle every choice below that represents a Binomial. If it is not a Binomial explain why not

$2x + 4$	$2x - 4$	$2x + y$	$2x + 4y$
$2x^2 + 2y^{-2}$	$2y^2 + 2y^2$	$2x^k + 2y^2$	

Add or Subtract Below. Write your answer in Standard Form. Classify your result.

18. $(19x^2 + 12x + 12) + (7x^2 + 10x + 13)$

19. $(9x^6 - 4x^5) + (10x^5 - 15x^4 + 14)$

20. $(17x^2 + 7x - 14) - (-6x^2 - 5x - 18)$

21. $(-18x^2 + 4x - 16) - (15x^2 + 4x - 13)$

22. Write and example of a 5^{th} degree trinomial where every term has at least three variables in it.

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Review: Module 17
Lesson 17.1 Classifying Polynomials, Lesson 17.2 Adding Polynomials, Lesson 17.3 Subtracting Polynomials

Vocabulary – Know the full definitions. – All of these definitions should be in your notebook.

MONOMIAL POLYNOMIAL DEGREE OF A POLYNOMIAL

STANDARD FORM OF A POLYNOMIAL LEADING COEFFICIENT

BINOMIAL TRINOMIAL

1. Rewrite the following polynomial in *standard form*: $5x-4-3x^4+2x^2$ $-3x^4+2x^2+5x-4$

2. What is the *constant term* in the previous polynomial? -4

3. What is the *leading coefficient* of each of the following polynomials?

   a. $2x^4+7x^2-18$ LC = 2

   b. $-x^3+2x^2-5x+13$ LC = -1

4. What is the *degree* of the following polynomial: $-8x-3x^5+10+6x^4$ 5

5. Classify the polynomial by *number of terms* (give the word):

   a. $2x^4+7x^2-18$ trinomial

   b. $-5x+13$ binomial

6. Classify the polynomial by *degree* (give the word):

   a. $2x^2-3x+8$ 2nd degree

   b. $-5x^3+1$ 3rd degree

7. Circle the problems that are in **standard form**. If it is not in standard form, re-write in standard form.

   a. x^3-11x^2

   b. $2+3x+4x^2+3x^3$ $3x^3+4x^2+3x+2$

   c. $-3x+17x^4+2x^2$ $17x^4+2x^2-3x$

   d. $-1+3x+2x^2$ $2x^2+3x-1$

8. Given: $2x^3-5x^2-2x+12$

How many terms are there? 4 What is the coefficient of the 3rd term? -2 What is the constant? 12

Match the term with its description

9. c binomial

10. d standard form

11. g leading coefficient

12. a monomial

13. f degree of a polynomial

14. b constant term

15. h trinomial

a. A polynomial with only one term.

b. The number that does not multiply any power of x.

c. A polynomial with two terms.

d. Written with terms in descending order, from largest degree to smallest degree.

f. The value of the sum of the exponent of the variables in a term

g. The number in front of the first term of a polynomial.

h. A polynomial with three terms.

16. Write at least 3 reasons why an algebraic expression would not be classified as a polynomial. Give an example of each.

a. Cannot have A variable exponent (like 2^x)

b. Cannot have a negative exp. (like x^{-2})

c. Cannot contain $\sqrt{}$ symbols (like $2y + \sqrt{3}x$)

17. Circle every choice below that represents a Binomial. If it is not a Binomial explain why not

$2x + 4$ $\quad 2x - 4$ $\quad 2x + y$ $\quad 2x + 4y$

$2x^2 + 2y^{-2}$ $\quad 2y^2 + 2y^2$ $\quad 2x^k + 2y^2$ → Not a polynomial because exponent of k

like terms

Add or Subtract Below. Write your answer in Standard Form. Classify your result.

18. $(19x^2 + 12x + 12) + (7x^2 + 10x + 13)$ $26x^2 + 22x + 25$

19. $(9x^6 - 4x^5) + (10x^5 - 15x^4 + 14)$ $9x^6 + 6x^5 - 15x^4 + 14$

20. $(17x^2 + 7x - 14) - (-6x^2 - 5x - 18)$ $23x^2 + 12x^1 + 4$

21. $(-18x^2 + 4x - 16) - (15x^2 + 4x - 13)$ $-33x^2 - 3$

22. Write and example of a 5th degree trinomial where every term has at least three variables in it.

Answers will vary.