

Name: \_\_\_\_\_

Algebra 1 Worksheet: Polynomials & Like Terms

1. Answer the questions or identify the specified parts of the polynomial:

$$5x^3 - 2x^2 + 14x + 7x^2 + 3x - 11$$

- a. How many terms does this polynomial have? 6
- b. Write the term that has a degree of 3.  $5x^3$
- c. What is the coefficient of this term with degree 3? 5
- d. Which term is a constant term?  $-11$
- e. List a pair of like terms. \_\_\_\_\_ and \_\_\_\_\_
- f. List another pair of like terms. \_\_\_\_\_ and \_\_\_\_\_
- g. Rewrite the polynomial in simplified form by combining the like terms:
- h. Evaluate this polynomial for  $x = 2$ . \_\_\_\_\_

2. Answer the questions or identify the specified parts of the polynomial:

$$2ab^2 + 3a^2b - 6b - 2a^2b + 3a - b$$

- a. How many terms does this polynomial have? \_\_\_\_\_
- b. Write the term(s) that have a degree of 1. \_\_\_\_\_
- c. What are the coefficients of the term(s) with degree 1? \_\_\_\_\_
- d. Which term is a constant term? \_\_\_\_\_
- e. List a pair of like terms. \_\_\_\_\_ and \_\_\_\_\_
- f. List another pair of like terms. \_\_\_\_\_ and \_\_\_\_\_
- g. Rewrite the polynomial in simplified form by combining the like terms:
- h. Evaluate this simplified polynomial for  $a = 4$  and  $b = -1$

**Simplify each of these polynomial expressions by combining like terms:**

(Hints: Change all subtraction to addition of a negative and group all like terms before combining)

3.  $5a + 7 - 2a$

4.  $12b - 5c + 5b + 1$

5.  $14z + 11 - 5z$

6.  $3 - 11y - 8 - y$

7.  $x^2 - 4x + 7 - 2x$

8.  $3y^2 + 8y - 5 - y^2 + 14$

9.  $2x^2 - 4 - 3x + x^2 - 7$

10.  $4w + 7 - 2w + 5 - 2w$

11.  $-3a + b + 5ab - 8a - 3ab + 2b$

12.  $4rs^2 - 6r^2s + 3rs - 3r^2s + rs^2$

**Simplify each expression.**

1)  $(5p^2 - 3) + (2p^2 - 3p^3)$

2)  $(a^3 - 2a^2) - (3a^2 - 4a^3)$  *\* Distribute the negative*  
 $a^3 - 2a^2 - 3a^2 + 4a^3$

3)  $(4 + 2n^3) + (5n^3 + 2)$

4)  $(4n - 3n^3) - (3n^3 + 4n)$

5)  $(3a^2 + 1) - (4 + 2a^2)$

6)  $(4r^3 + 3r^4) - (r^4 - 5r^3)$