

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

Algebra

Date: \_\_\_\_\_ Bell: \_\_\_\_\_

Unit : Polynomials & Factoring

Classifying & Simplifying Polynomials

Classify the following polynomials by degree and number of terms.

1.  $4p^3 + 2p^2 + 19p - 5$

1. \_\_\_\_\_

2.  $5x^4 + 12$

2. \_\_\_\_\_

3.  $n^2 - 7n - 21$

3. \_\_\_\_\_

4. 3

4. \_\_\_\_\_

5.  $2x + 7$

5. \_\_\_\_\_

6.  $-8y^2$

6. \_\_\_\_\_

Simplify the following polynomials. All final answers must be in standard form. Box answers.

7.  $(3y^2 - 4y + 1) + (-y^2 + y - 2)$

8.  $(2m^2 - 8m + 2) - (-3m^2 + 5m - 7)$

9.  $(7 - 4k^2 + k) + (8k + 5k^2 - 7)$

10.  $(6x^2 - 5x) - (4x^2 - 3x + 4)$

11.  $3a(6a^2 - 4ab^2) + 8a^2b^2 - 2b^3$

12.  $-2x(x^3 - 6x^2 + 6) + 4x^3 - (5x^4 + 10x)$

13.  $(x - 4)(x + 6)$

14.  $(2m - 3)(6m + 1)$

15.  $(5a + b)(a - 4b)$

16.  $(7a - 1)^2$

17.  $(x - 10)(x + 10)$

18.  $(n - 9)(n^2 + 4n - 10)$

19.  $(3x + 5)(4x^2 - 5x - 3)$

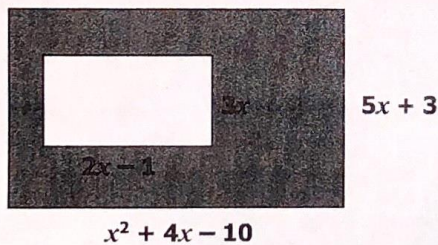
20. 
$$\frac{6x^3 - 15x^2 - 3x}{-3x}$$

21. 
$$\frac{32a^8b^6 - 12a^5b^4c^2}{4a^3b^3}$$

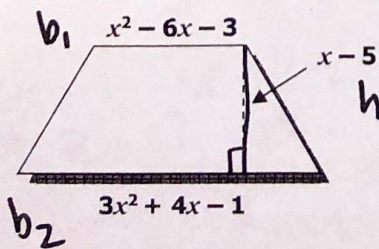
22. 
$$\frac{7x^3 + 4x^2 + 2x}{x^2}$$

23. Subtract  $(a^2 - 8ab + 2b^2)$  from  $(5a^2 - 9ab + 2b^2)$

24. Find the area of the shaded region: *Area of outside - inside*  
 $(5x+3)(x^2+4x-10) - 3x(2x-1)$



**BONUS:** Write an expression to represent the area of the trapezoid below. Show all work.



$$A = \frac{1}{2}(b_1 + b_2) \cdot h$$