Name _____ Date _____ Period ____
Adding, Subtracting, and Multiplying Polynomials

Fill out the columns below for each polynomial given.

Polynomial	Standard Form Circle the leading coefficient	# Terms, use vocabulary word and number	Degree	Coefficient(s), Circle the constant
1. $6x^3 + 8x - 3x^2$				
2. $x^4 + 2x$				
3. x				
4. $3 - \frac{1}{2}x$				
5. 8				

Simplify each expression by adding or subtracting. <u>Show all of your work!!</u> Write your final answers in <u>standard form.</u>
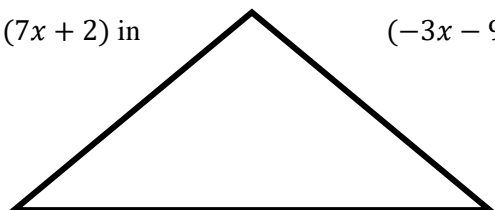
6. $\left(-8x^2 + 2x + 1\right) + \left(10x^2 - x\right)$

7. $\left(5x^2 + 7x - 8\right) - \left(7x^3 + 2x^2 + 3x\right)$

8. $\left(-x^2 - 10x + 7\right) - \left(-2x^2 + 3x - 1\right)$

9. $\left(-7x + 3\right) + \left(-x^2 + 9x - 1\right) - \left(-4x^2 + 12x - 2\right)$

10. Find the perimeter in terms of x.
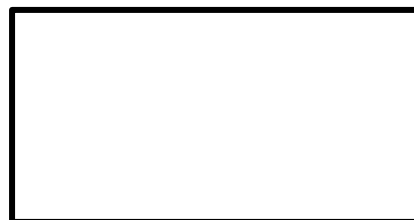
$(7x + 2)$ in $(-3x - 9)$ in

$(10x + 3)$ in

11. Find the perimeter of the rectangle in terms of x.

$(-4x + 1)$ in

$(5x - 7)$ in

Simplify each of the following expressions by multiplying. <u>Show all of your work!!</u> Write your final answers in <u>standard form.</u>

12. $-4y\left(-y^2-8y+2\right)$

13. $(x+5y)(x-9y)$

14. $(5y^2-2y-1)(y+4)$

15. $(2r-3)^2$

Mixed Review: Simplify each expression. <u>Show all of your work!!</u> Write your final answers in <u>standard form.</u>

16. $(x+4)(2x^2-x+8)$

17. $3(2x+5)-2(3x-4)$

18. $(3x-8)^2$

19. $(x-1)(x+1)+(x^2+5x-6)$

20. $(x + 3)(x - 7) + (6x^2 - 7x - 12)$

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

22. Find the perimeter and area of the rectangle.

$(x - 5)$ cm

A. Perimeter:

B. Area:

$(x^2 + 2x - 1)$ cm

23. Find the volume of the rectangular prism. Leave your answer in terms of x.

$(x + 1)$ in

x in

$(x - 2)$ in