Algebra Lesson 8-1

Adding and Subtracting Polynomials.

Monomial

1) A number: 12

2) A varaible: x

3) A product: $12x^2$

Binomial

The sum (or difference) of two monomials:

$3x + 4$

$5x - 7$

Trinomial

The sum (or difference) of three monomials:

x^2+3x+4 $\qquad\qquad$ $6x^2+5x-7$

polynomial

A **polynomial** is a sum of one or more monomials.

$$3x^4 + 5x^2 - 7x + 1$$

Adding Polynomials

Combine like terms

Simplify $(4x^2 + 6x + 7) + (2x^2 - 9x + 1)$

$6x^2 - 3x + 8$

Subtracting Polynomials

Distribute the negative.

Combine like terms.

Simplify $(2x^3 + 5x^2 - 3x) - (x^3 - 8x^2 + 11)$.

$2x^3 + 5x^2 - 3x \quad -x^3 + 8x^2 - 11$

$x^3 + 13x^2 - 3x - 11$

$(2x^2 - 6x + 3) - (2x + 4x^2 + 2)$

$2x^2 - 6x + 3 - 2x - 4x^2 - 2$

$-2x^2 - 8x + 1$

$(x^3 + 3x) - (x^2 + 6 - 4x)$

$(3x + (5n^2 - 7) - (2n^2 + n - 3)$ 3)

$$(x^3 + 3x) - (x^2 + 6 - 4x)$$

$x^3 + 3x - x^2 - 6 + 4x$

$x^3 - x^2 + 7x - 6$

$(5n^2 - 7) - (2n^2 + n - 3)$

$(2x^2 - 6x + 3) - (2x + 4$

Write each polynomial in standard form. Then name each polynomial based on its degree and number of terms.

15. $4x - 3x^2$

16. $4x + 9$

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

18. $9z^2 - 11z^2 + 5z - 5$

19. $y - 7y^3 + 15y^8$

20. $-10 + 4q^4 - 8q + 3q^2$

24. $(8x^2 + 1) + (12x^2 + 6)$

25. $(g^4 + 4g) + (9g^4 + 7g)$

26. $(a^2 + a + 1) + (5a^2 - 8a + 20)$

27. $(7y^3 - 3y^2 + 4y) + (8y^4 + 3y^2)$

31. $(17n^4 + 2n^3) - (10n^4 + n^3)$

32. $(24x^5 + 12x) - (9x^5 + 11x)$

33. $(6w^2 - 3w + 1) - (w^2 + w - 9)$

34. $(-5x^4 + x^2) - (x^3 + 8x^2 - x)$

Simplify. Write each answer in standard form.

35. $(7y^2 - 3y + 4y) + (8y^2 + 3y^2 + 4y)$

36. $(2x^3 - 5x^2 - 1) - (8x^3 + 3 - 8x^2)$

Simplify. Write each answer in standard form.

35. $(7y^2 - 3y + 4y) + (8y^2 + 3y^2 + 4y)$

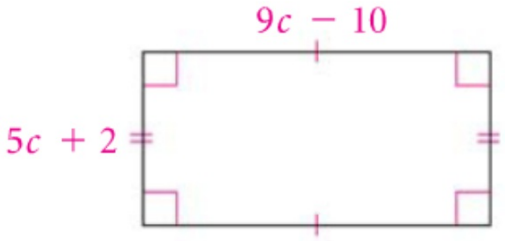
36. $(2x^3 - 5x^2 - 1) - (8x^3 + 3 - 8x^2)$

37. $(-7z^3 + 3z - 1) - (-6z^2 + z + 4)$

38. $(7a^3 - a + 3a^2) + (8a^2 - 3a - 4)$

Find an expression for the perimeter of each figure.

39.



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