

Pre-Algebra

Operations with Polynomials

Do Now:

- A. Write $3x + 6 - 4x^2$ in standard form. _____
- B. What is the degree of $4x - 3x^3$? _____
- C. True/False: $(3x - 4)^2 = 9x^2 + 16$ _____
- D. Name the leading coefficient in the polynomial $3x - x^2 + 5$. _____
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Remember: The order of Operations (PEMDAS) is always in effect!

Perform the indicated operations. All responses should be represented as a simplified polynomial expression in standard form.

1. $(4x - 5) + 2(3x^2 + 5x - 4)$

2. $(3x)(-4x) - (5x^2 - 3x + 1)$

3. $(x - 2)^2 + (7x^2 + 11)$

4. $(4x + 5)(4x - 5) + (2x - 10)(2x + 10)$

5. $4x(2x - 6)^2$

6. $\frac{(8x^3)(-2x^5)}{4x}$

7.
$$\frac{(2x - 4)(x + 5x)}{2x}$$

8. $(2x - 1)(3x + 5) - (x + 5)(x - 6)$

9. $(2x - 3)(x^2 - 3x - 5)$

10. Write a polynomial expression in simplest form for the area of a triangle whose height is $6x + 2$ and whose base is $3x - 1$.

11. Represent the product of three consecutive odd integers as a simplified polynomial expression in standard form.