

2.2 Adding and Subtracting Polynomials

Period _____

Simplify each expression by combining like terms, put your answers in standard form. (Add)

1) $(5n - 3n^4) - (-5n^4 - 3n)$

2) $(-2v^2 + 5) - (4 + 3v^2)$

3) $(-3 - 4x^4) + (-x^4 + 1)$

4) $(-3a + 5) + (5 + 5a)$

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

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

7) $(-2r^3 + 3r + 10r^5) + (11r + 6r^5 - 10r^3)$

8) $(-9r^5 + 11r^3 - 7r^2) - (r^2 - 8r^5 + 3r^3)$

9) $(-14a^3 + 7a^2 + 3a) - (8a^2 - 2a^3 - 8a^5)$

10) $(-6x^5 + 14 - 7x^4) - (-11 + 5x^4 - x^5)$

11) $(-10r^4 - 13r + 6r^2) + (-8r - 6r^4 + 9r^2)$

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

13) A pool is being filled with a large water hose. The height of the water in a pool is determined by $8g^2 + 3g - 4$. Previously, the pool had been filled with a different hose. Then, the height was determined by $6g^2 + 2g - 1$. Write an expression that determines the height of the water in the pool if both hoses are on at the same time. Simplify the expression.

14) A bicycle company produces y bicycles at a cost represented by the polynomial $y^2 + 10y + 100000$. The revenue for y bicycles is represented by $2y^2 + 10y + 500$. Find a polynomial that represents the company's profit. If the company only has enough materials to make 300 bicycles, should it make the bicycles?