6-1 Adding and Subtracting Polynomials

Date_____ Period____

Simplify each expression.

1) $(8n^3 + 3n^2) + (3n^3 - 8n^2)$

2) $(7x - 2x^4) - (7x^4 + 3x)$

3) $(7p^2 + 6p^3) - (2p^3 + 7p^2)$

4) $(7x^3 - 5x^4) + (5x^3 - 7x^4)$

5) $(4n^4 - 2n) + (n + 7)$

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

7) $(5 + 5n^3) + (4 - 7n^3)$

8) $(7 - 3n) + (3 - 3n^4)$

9) $(4n^4 + 5) - (5n^4 - 8)$

10) $(5 + 3a^2) + (4 + 5a^2)$

11) $(3m^4 - 6m^3 + 3) - (3m + 2 + 8m^4)$

12) $(6x^2 - 1 + 5x) + (2 - 7x^2 - 7x^4)$

13) $(7 - 4x^4 + x) - (2x^4 + 7x + 4)$

14) $(5 - n^3 - n^2) + (7n^2 - 4n^3 - 6)$

15) $(b^3 + 7b^4 + 2b^2) + (4b^3 + 2b^4 + b^2)$

16) $(5 - 8k^4 + 8k^2) + (4k^4 - 5 + 4k^2)$

17) $(5x^4 + 6 - x^2) + (3x^4 + 3x^2 + x^3)$

18) $(7 - 4n - 6n^4) - (6n^2 - 5 - 5n)$

Name each polynomial by degree and number of terms.

19) -1

20) $-2m^2 - 2m$

21) $-2a + 5$

22) $-6k^3 + 6k^2 - 8k$

23) A city wants to compare the number of people who own their own home and who rent their home. The polynomials below show expressions for each. In each polynomial, $p = 0$ corresponds to the first year.

Own: $4p^2 + 37p + 221$

Rent: $6p^2 + 12p + 53$

Write an expression for how many more people own their home than rent their home.

24) Open-Ended: Write two different polynomials with a difference of $-2x^2 + 7x - 8$