

## 2.2 Adding, Subtracting, and Multiplying

Period \_\_\_\_\_

**Simplify each expression.**

1)  $(-5k^3 - 3 - 6k^2) + (-4k^3 + 2k^2 - 3k^4)$

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

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

4)  $(-7x^2 - 8x^3 + 3) + (6x^2 + 3x^3 + 3x)$

5)  $(4 - 3n - 5n^2) - (8n + 2 - 3n^2)$

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

7)  $(-2 + 5n - 7n^2) + (7n - 6 - n^2)$

8)  $(-5x^2 + x^3 + 6) - (6x^3 + 4x^4 + 5x^2)$

**Find each product.**

9)  $(b - 8)(2b + 1)$

10)  $(x - 2)(6x + 8)$

11)  $(4n - 8)(5n - 8)$

12)  $(6m + 3)(4m - 7)$

13)  $(2a - 2)(8a + 3)$

14)  $(5n - 3)(3n - 1)$

15)  $(2x - 2)(2x^2 - 4x + 5)$

16)  $(5x - 3)(5x^2 + 7x - 1)$

17)  $(4k - 6)^2$

18)  $(6x - 5)(6x + 5)$

19)  $(8x - 7)^2$

20)  $(4r^3 - 5)(4r^3 + 5)$

21) Daisy planted flowers in a rectangular garden. The width of the garden is  $(x-5)$  feet and the length of the garden is 2 feet longer than the width.

a) How can you express the length and width?

b) Write an expression for the perimeter of the garden.

c) Write an expression for the area of the garden.