

## Polynomial Operations

**Simplify each expression.**

1)  $(-3x^2 + 6x^3 - 6) + (-7 + 8x^3 - 3x^2)$

2)  $(6v^3 + 6v^2 - 8v) - (-8v^4 + 6v + 3v^3)$

3)  $(-5k^3 - k^4 - 8k^2) - (6k^4 - 8k^2 - 6k^3)$

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

**Find each product.**

5)  $6n(3n^2 + 2n - 8)$

6)  $-3n^4(-7n^2 - 8n - 8)$

$$7) (-5x + 4)(7x^2 - 8x + 8)$$

$$8) (7x - 8)(-2x^2 + 5x + 7)$$

$$9) 3x^3(-2x - 2y)$$

$$10) -2x^2y^2(6x + y)$$

$$11) (-x - 4y)(5x + 3y)$$

$$12) (-6u - v)(-4u - v)$$

$$13) (-2x - y)(3x^2 - 6xy + 6y^2)$$

$$14) (3u + 2v)(4u^2 - uv + 6v^2)$$