

## Polynomial Operations

Date \_\_\_\_\_ Period \_\_\_\_\_

**Simplify each expression.**

1)  $(-8p^4 - 1 + 7p^3) + (-5 - p^4 - 6p^3)$

2)  $(5r^2 - 7r - 3r^4) - (3r - 5r^2 + 8r^4)$

3)  $(3 + 8a^2 - 7a) - (a^2 + 8a + 3)$

4)  $(-5b - 6 - 6b^2) - (8b^2 + b - 2)$

5)  $(7v^2 - 7 - 7v) + (8v^2 + 6v + 4v^5) - (7v^5 + 3v^2)$

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

**Find each product.**

7)  $(6x - 2)(4x - 8)$

8)  $(8a + 3)(4a + 3)$

$$9) (2k + 7)(3k - 1)$$

$$10) (2x - 7)(x^2 - 4x + 6)$$

$$11) (4k - 6)(7k^2 + 6k + 6)$$

$$12) (6a - 2)(7a^2 + 6a - 8)$$

**Factor each completely.**

$$13) 5a^2 - 42a + 16$$

$$14) 7b^2 + 2b - 9$$

$$15) 7n^2 - 47n + 30$$

$$16) 7n^2 - 19n - 6$$

$$17) 3a^2 - 36a + 81$$

$$18) 4k^2 - 44k + 72$$