

**Polynomials**

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

**Name each polynomial by degree and number of terms. If the polynomial is not in standard form, rewrite it in standard form.**

1)  $-7n^2 - 7n - 6$

2)  $-3n$

3)  $9n^2 + 7n^3$

4)  $-10 - 3p^3 - 4p^2 + 6p$

5)  $-3b - 10b^2$

6)  $-6$

**Simplify each sum.**

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

8)  $(7p^2 - 4) + (2p^2 + 8)$

**Simplify each difference.**

9)  $(2a^4 + 6a^3) - (4a + 6a^3)$

10)  $(7x - 8x^4) - (-2x^4 + 4x)$

**Simplify each expression.**

11)  $(7 + n^3) - (-6n^4 + 8n^3 - 3)$

12)  $(5a^4 - 8a^3 + 2a) - (4a + 8a^4 + 5a^3)$

**Find each product.**

13)  $6n^2(3n + 7)$

14)  $8(8a + 2)$

15)  $8(3k - 4)$

16)  $4x(7x - 6)$

17)  $(5x - 7)(3x - 1)$

18)  $(3m + 7)(8m + 5)$

19)  $(6p - 6)(p - 5)$

20)  $(4x + 8y)(5x + 3y)$

21)  $(3x - 5y)(5x^2 + 8xy + 3y^2)$

**Polynomials**

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

**Name each polynomial by degree and number of terms. If the polynomial is not in standard form, rewrite it in standard form.**

1)  $-7n^2 - 7n - 6$   
 quadratic trinomial

2)  $-3n$   
 linear monomial

3)  $9n^2 + 7n^3$   
 cubic binomial

4)  $-10 - 3p^3 - 4p^2 + 6p$   
 cubic polynomial with four terms

5)  $-3b - 10b^2$   
 quadratic binomial

6)  $-6$   
 constant monomial

**Simplify each sum.**

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

8)  $(7p^2 - 4) + (2p^2 + 8)$   
 $9p^2 + 4$

**Simplify each difference.**

9)  $(2a^4 + 6a^3) - (4a + 6a^3)$   
 $2a^4 - 4a$

10)  $(7x - 8x^4) - (-2x^4 + 4x)$   
 $-6x^4 + 3x$

**Simplify each expression.**

11)  $(7 + n^3) - (-6n^4 + 8n^3 - 3)$   
 $6n^4 - 7n^3 + 10$

12)  $(5a^4 - 8a^3 + 2a) - (4a + 8a^4 + 5a^3)$   
 $-3a^4 - 13a^3 - 2a$

**Find each product.**

13)  $6n^2(3n + 7)$   
 $18n^3 + 42n^2$

14)  $8(8a + 2)$   
 $64a + 16$

15)  $8(3k - 4)$   
 $24k - 32$

16)  $4x(7x - 6)$   
 $28x^2 - 24x$

17)  $(5x - 7)(3x - 1)$   
 $15x^2 - 26x + 7$

18)  $(3m + 7)(8m + 5)$   
 $24m^2 + 71m + 35$

19)  $(6p - 6)(p - 5)$   
 $6p^2 - 36p + 30$

20)  $(4x + 8y)(5x + 3y)$   
 $20x^2 + 52xy + 24y^2$

21)  $(3x - 5y)(5x^2 + 8xy + 3y^2)$   
 $15x^3 - x^2y - 31xy^2 - 15y^3$