

## Test 4 Study Guide

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

**Name each polynomial by degree and number of terms.**

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

2)  $-10x$

3)  $-10b - 10b^2 - b^3 + 1$

4)  $9 - 3k + 7k^3$

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

6)  $7m$

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

8)  $7n^2 + 2n - 7n^4 - 5n^6 - 6$

9)  $8n^2 + n^6 - 3n^3 + 10n^5$

10)  $5x + 9x^4 - 1 + 6x^3 - 2x^2$

**Simplify each expression.**

11)  $(2x^3 + 4x^4) - (1 - 5x^4)$

12)  $(5n + 4n^4) + (3n - 2n^4)$

13)  $(v^2 + 4v) + (2v^2 - v)$

14)  $(3 + 5x^2) + (4x^2 - 2)$

15)  $(7m^4 - 7m + 10m^2) - (8m^4 - 10m + 10m^3)$

16)  $(-11p - 4p^5 + 7) + (-6p^5 + 14p - 4)$

17)  $(6p - p^2 + 11p^4) + (-5p - 11p^2 + 8p^5)$

18)  $(-9x^4 - 11x^3 - 8) + (-x^2 + 3x^4 - 6)$

19)  $(9k^2 + 8k + 2k^5) + (2k^2 + 3k + 9k^5)$

20)  $(-6k + 10 + 9k^4) + (-7 + 11k^4 - 4k)$

21)  $(-3x^2y + 12) + (-2x^2y^4 - 9x^2y - 12) + (7x^3y^3 - 4)$

22)  $(-4x^3 + 8x^2y^4) + (13x^2y^4 - 14y^2 - x^3) - (-12x^2y^4 - 2y^2)$

23)  $(-5m^2n^4 - 5n^4) - (-11n^2 - 6n^4 - m^2n^4) - (7n^2 + 2n^4)$

24)  $(11x^3y^4 - 4x^2y^2) + (-14x^3y^4 + 13x^4y - 9x^2y) + (-14x^2y^2 + x^2y)$

25)  $(7x^3y^3 - 14xy^3) - (-5xy^3 - 4y^3 - 13x^3y^3) - (4x^3y^3 - 5xy^3)$

26)  $(2y^4 - x^4y^4) - (5y^3 + 11x^4y^4 + 11x^4) + (9x^4 - 4y^4)$

27)  $(6ab - 5a^4b^2 - 13ab^3 - 7a^2b^3) - (-3ab - 11a^4b^2 - 5a^2b^3 - 14ab^3) + (-9a^2b^3 - 11a^4b^2 - 7ab - 3ab^3)$

$$28) (-9 + 3x^3y^3 + x + 6xy^3) + (xy^2 + 10 + 3x^4 - 11x^3y^3) + (3 + x^2y^2 - x^4 + 12xy^3)$$

**Find each product.**

$$29) 5(6n + 8)$$

$$30) 7x(5x - 6)$$

$$31) 5x(2x - 2)$$

$$32) 7(4p - 4)$$

$$33) 5(6x^2 - x + 2)$$

$$34) 5(2x^2 + 5x + 4)$$

$$35) 6(8k^2 + 7k - 4)$$

$$36) 3(4m^2 + 7m + 5)$$

$$37) (3x - 4)(4x + 3)$$

$$38) (8r + 3)(2r + 3)$$

$$39) (r - 7)(r - 4)$$

$$40) (r + 7)(7r - 7)$$

$$41) (4v + 4)(6v^2 + 2v - 1)$$

$$42) (2n - 3)(7n^2 + 3n + 7)$$

$$43) (4p - 8)(4p^2 - 8p + 2)$$

$$44) (6n - 8)(6n^2 - 7n + 6)$$

45)  $(4m^2 + m + 7)(m^2 + 4m - 3)$

46)  $(3n^2 + 8n - 6)(4n^2 - n - 1)$

47)  $(5x^2 - x - 2)(3x^2 + x - 8)$

48)  $(4n^2 - 8n + 2)(6n^2 - 2n - 4)$

**Find each coefficient described.**

49) Coefficient of  $v^3$  in expansion of  $(v + 2)^4$

50) Coefficient of  $x^2y^2$  in expansion of  $(x + y)^4$

51) Coefficient of  $x$  in expansion of  $(1 - 2x)^3$

52) Coefficient of  $uv^2$  in expansion of  $(u - v)^3$

**Find each term described.**

53) 3rd term in expansion of  $(u + 3)^3$

54) 1st term in expansion of  $(y - 2)^3$

55) 3rd term in expansion of  $(m + n)^4$

56) 4th term in expansion of  $(x + 4)^3$

**Expand completely.**

57)  $(2y - 1)^4$

58)  $(x + 3y)^4$

59)  $(y - x)^3$

60)  $(2y + 1)^3$