

Name _____

Period _____

Algebra II ACP Summer Packet

Simplify each expression.

1. $-20 - (-5) \cdot (-2)^2$

2. $(-\frac{1}{4})^3$

3. $-\frac{7ab}{a}, a \neq 0$

4. $-|-25|$

5. $\sqrt{\frac{16}{25}}$

6. $5x^2 - x^2$

7. $-(-2 + 6t)$

8. $-3[b - (7)]$

9. $3x^2 - 4x - 2x^2 - 5$

10. $-2d + 7 + 5d + 8$

11. $-2(m + 1) + 9(4m - 3)$

12. $s - 4 - (s^2 - 2) - 8s$

Solve each equation.

13. $x - 4 = -2$

10. $-8 + x = 15$

14. $-\frac{3}{4}y = 9$

12. $\frac{5}{8t} - 7 = -22$

13. $4t + 7 + 6t = -33$

14. $n + 3(n - 2) = 10.4$

15. $\frac{1}{3w} + 3 = \frac{2}{3}w - 5$

16. $5w \geq -6w + 11$

17. $|4k - 2| = 11$

18. $5|2x - 7| = 20$

19. $9 \leq 6 - b < 12$

20. $8x + 7 > -3(5x - 4)$

21. $3(2 - 2x) = -6(x - 1)$

22. $4x - 1 = 3(x + 1) + x$

Find slope.

21. $(2,2), (3,1)$

22. $(4,2), (0,2)$

23. $(-1,2), (0,5)$

24. $(-3,-2), (-3,2)$

25. Write an equation of a line that is parallel to $y = 5x - 2$ and that passes through point $(2,-1)$.

26. Write an equation of a line that is perpendicular to $y = -3x + 7$ and that passes through point $(3,5)$.

27. Write the equation of a line with slope $=-4$ that passes through point $(-1, 7)$.

Graph each line.

30. $y = \frac{2}{3}x + 3$

31. $2x + 4y = -8$

Simplify each expression

36. $(5x)^2$

37. $(-3x^2)(-4x^6)$

38. $(-2pq)^3$

39. $\frac{4x^2y^5}{6xy^3}$

40. $\frac{-3n}{(6n^4)(4n^2)}$

41. $\frac{6x^{-2}y}{18x^2y^{-1}}$

Simplify

42. $(x^2 + 6x + 11) + (3x^2 + 7x + 4)$

43. $(44x^2 + 10x + 7) - (2x^2 + 7x + 5)$

44. $6x^2(4x^2 - 2x + 3)$

45. $-8c^3(3c^2 + 2c - 9)$

46. $(x + 2)(x + 9)$

47. $(4x - 1)(x - 8)$

48. $(h + 2)(3h^2 + h - 7)$

49. $(r + 3)^2$

50. $(k - 3)(k + 3)$

Factor

51. $16x^6 + 22x^2 + 30x^5$

52. $x^2 + 9x + 20$

53. $x^2 - x - 30$

54. $x^2 - 8x + 16$

55. $x^2 - 100$

56. $49x^2 - 64$

57. $2x^2 + 3x - 2$

58. $5x^2 + 15x + 10$

59. $7h^4 - 4h^3 + 28h^2 - 16h$

60. $15t^3 + 2t^2 - 45t - 6$

Evaluate each function rule for $x = -6$

61. $f(x) = -3x^2$

62. $h(x) = x^2 + 6x$

63. $g(x) = (x - 1)^2$

Solve by factoring

64. $x^2 + 7x + 12 = 0$

65. $5x^2 - 10x = 0$

66. $x^2 - 5x = -4$

67. $2x^2 + 5x = 3$

Solve Systems algebraically

68. $y = x^2 + 2x - 45$

$y = 6x + 51$

69. $4x = y = 8$

$-3x - y = 0$

$$70. 2x + 5y = 20$$

$$3x - 10y = 37$$

Graph

$$71. y = \frac{1}{2}x - 3$$

$$72. y = 3$$

$$73. x = -1$$

$$74. 2x + 3y = 6$$

$$75. y \geq x + 4$$