Summer Packet
Advanced Pre-Algebra going into full year Algebra

Integers

Solve.

1. -0.18 + 0.4

2. 3.2 – (-3)

3. -0.4 - 6.6

4. 2 – 4 1/2

5. -72 ÷ 1/12

6. ½ (-4/15)

7. -5 1/3 (-1 1/6)

8. -10 1/5 ÷ (-8 2/3)

Exponents

Solve/simplify.

9. -2^4

10. $(-2)^4$

11. $-6m^2$, $m = 2$

12. $8 - x^3$, $x = -2$

13. $4(2y - 3)^2$, $y = 5$

14. $(0.5)^2$

15, 3.3^3

16. $x^2 \bullet x^3 \bullet y \bullet y^4$

17. $6a^3 \bullet 3a$

18. $(1/2^4)^2$

19. $(c^5)^4$

20. $\frac{10^{7}}{10^{4}}$

21. $\frac{12\,m^{5}\,n}{3\,m\,n^{3}}$

22. 43^{0}

23. $\frac{5^{2}\,x^{6}\,y}{5\;x^{6}\;y}$

24. $\frac{10\,y^{7}\,z}{6\,y^{2}}$

25. $\frac{4^{5}}{4^{7}}$

26. $\frac{3\;y^{8}}{9\;y^{12}\;z^{3}}$

Evaluating Expressions

Evaluate.

27. $3ab + \frac{c}{2}$ for a = 2, b = 5, c = 10.

28. 19 – (a – 4), for a = 8.

29. 6 ÷ a + 8, for a = 2.

30. $\frac{y}{-x}$, for x = 5 and y = -4.

31. $\frac{b - a}{3b}$, for a = -4 and b = -6.

Solving Multi-Step Equations & Inequalities

31. 15x + 3 = 48

32. $-a + 6 = 8$

33. $-9 - \frac{y}{7} = 12$

34. $5 - 2(x - 4) = -3$

35. $13 - 6f = 31$

36. $-2(a + 3) - a = 0$

37. $m + 4(2m - 3) = -3$

38. $-9 - b + 8b = -23$

39. $-\frac{7}{10} k + 14 = -21$

40. $\frac{2}{3}(m - 6) = 3$

41. $1.5x - 3.6 = 2.4$

42. $1.06b - 3 = 0.71$

43. $-2d + 4.3 = 10.7$

44. $4x + 4 = 2x + 36$

45. $-15 + 6b = -8b + 13$

46. $2(x - 4) = 3x + 12$

47. $3(2y - 0.3) = 19.4 - y$

48. $2(2a + ½) = 3(2 - 2/3)$

Solve and graph.

49. $-2m + 4 \leq 34$ ←_____→

50. $6 - x > 3$ ←_____→

51. $8.3 < -0.56 - 2.7b$ ←_____→

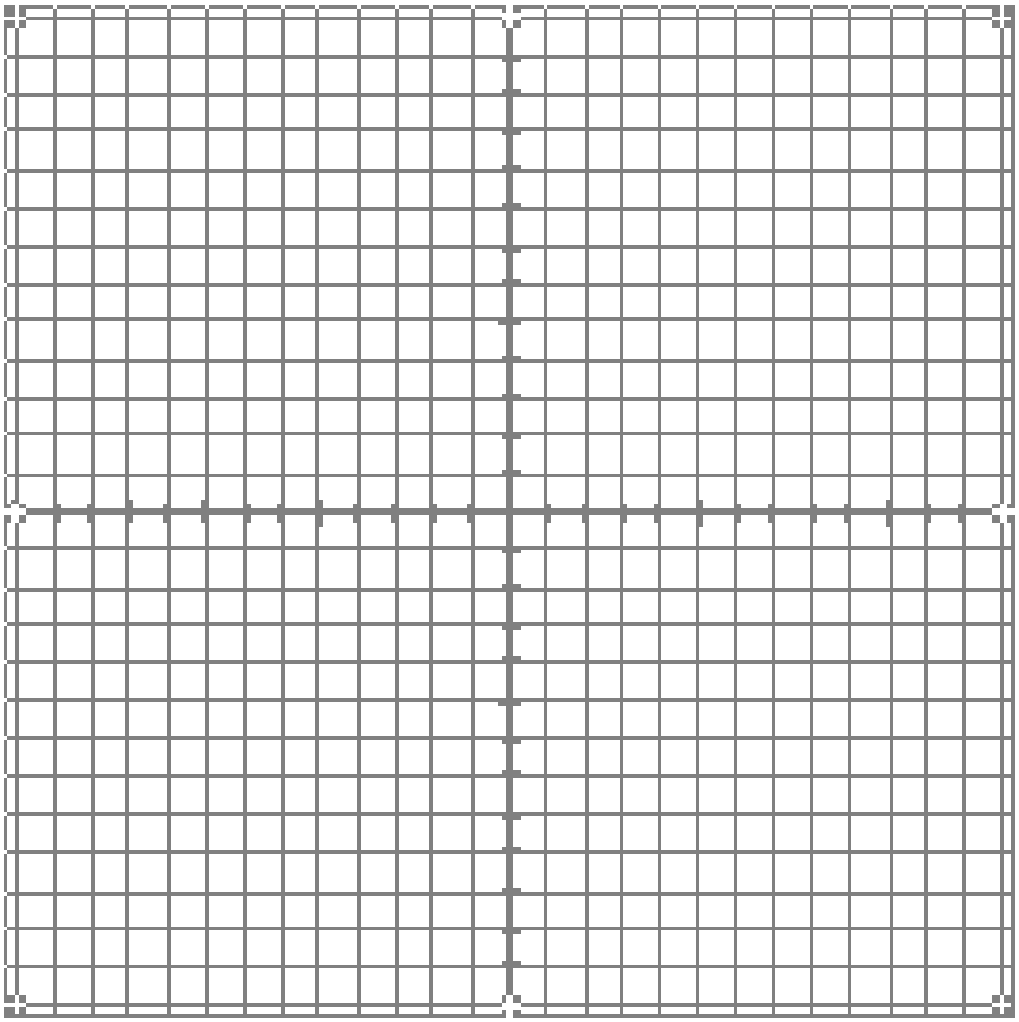
52. $-1/9c + 13 \geq 5$ ←_____→

53. $-4(2a + 7) \leq -12$ ←_____→

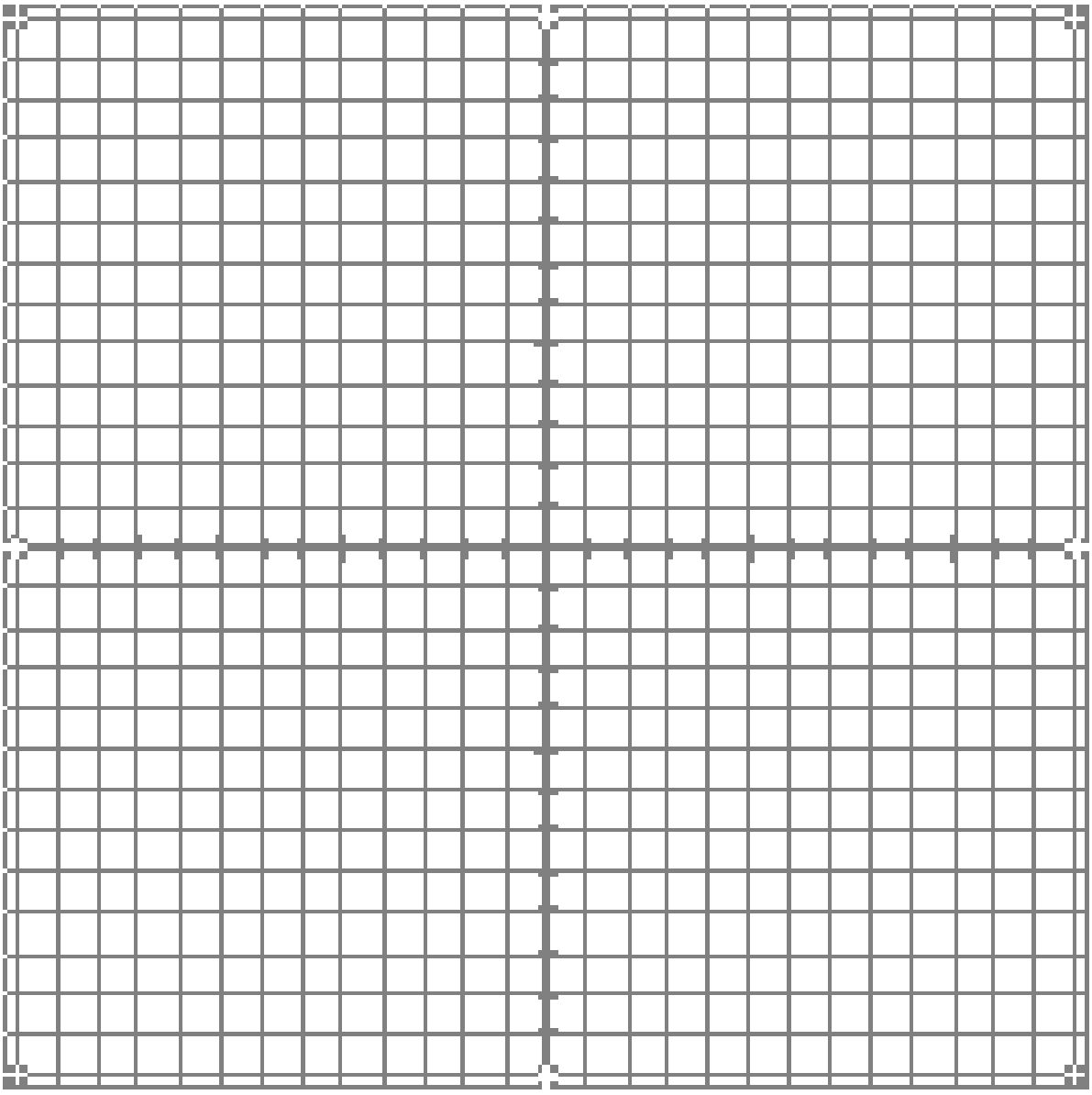
Graphing Linear Equations and Inequalities

Graph the following linear equations on graph paper.

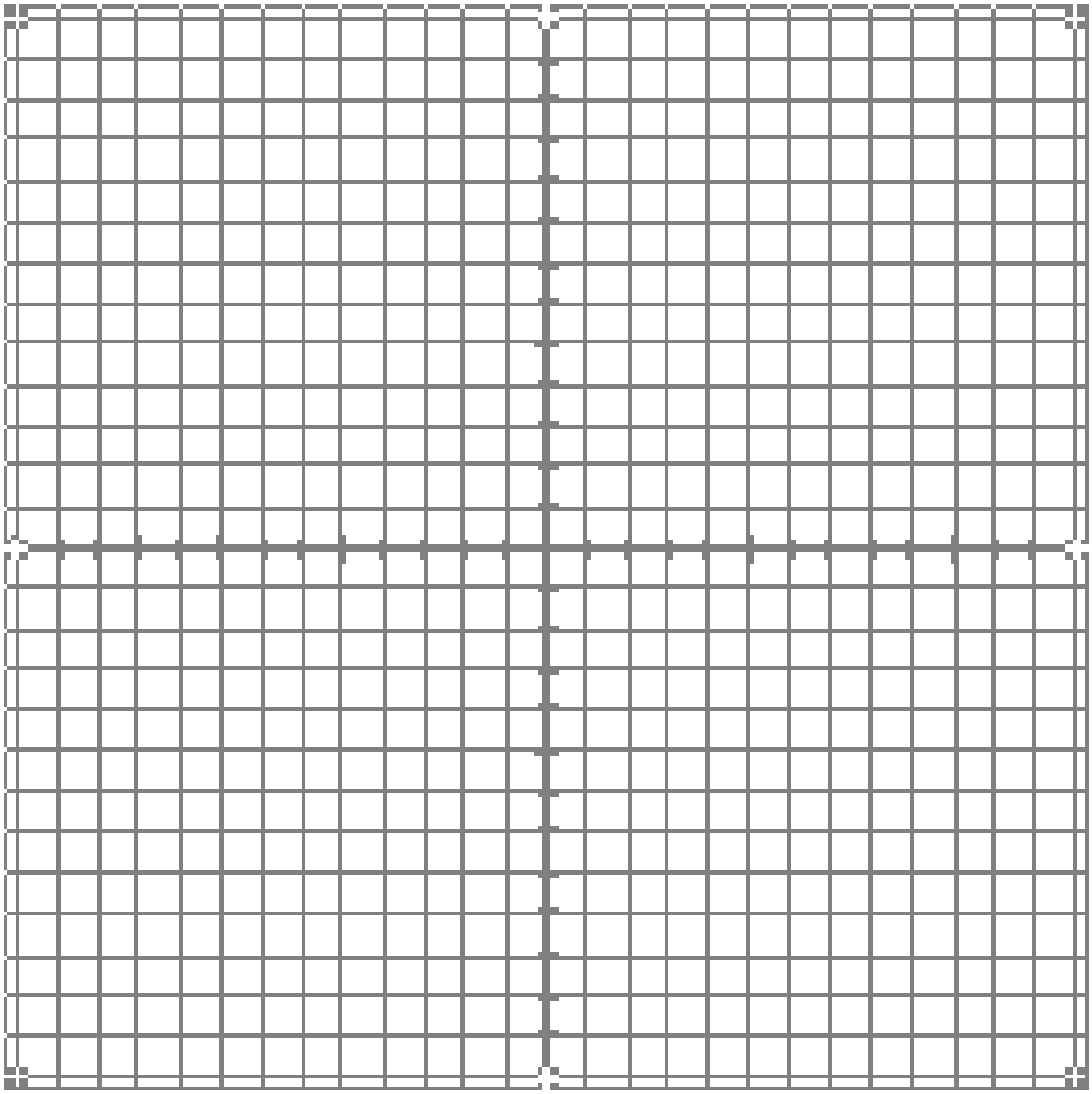
54. $y = 2x + 1$



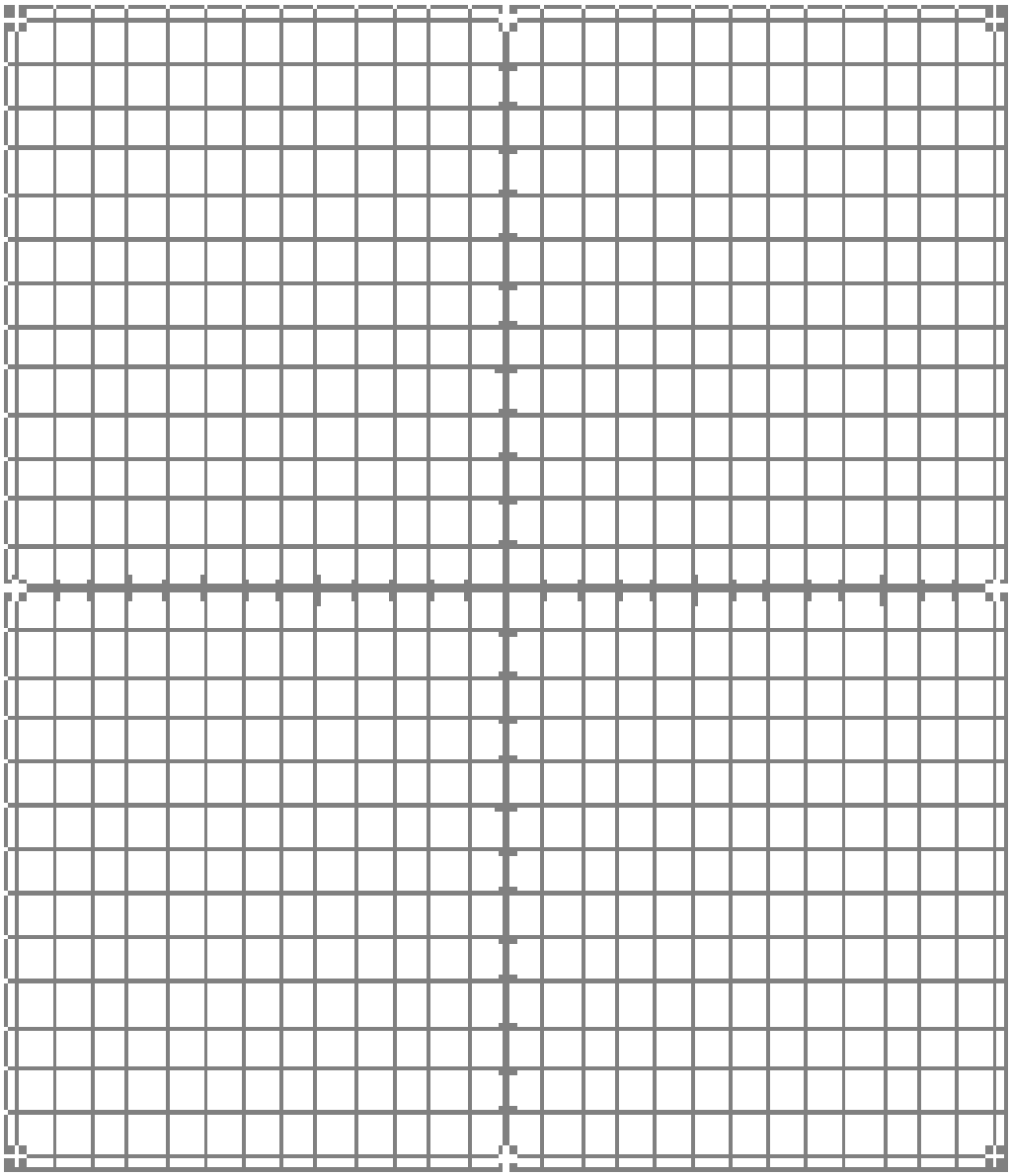
55. $y = -1/2x + 4$



56. x = 1

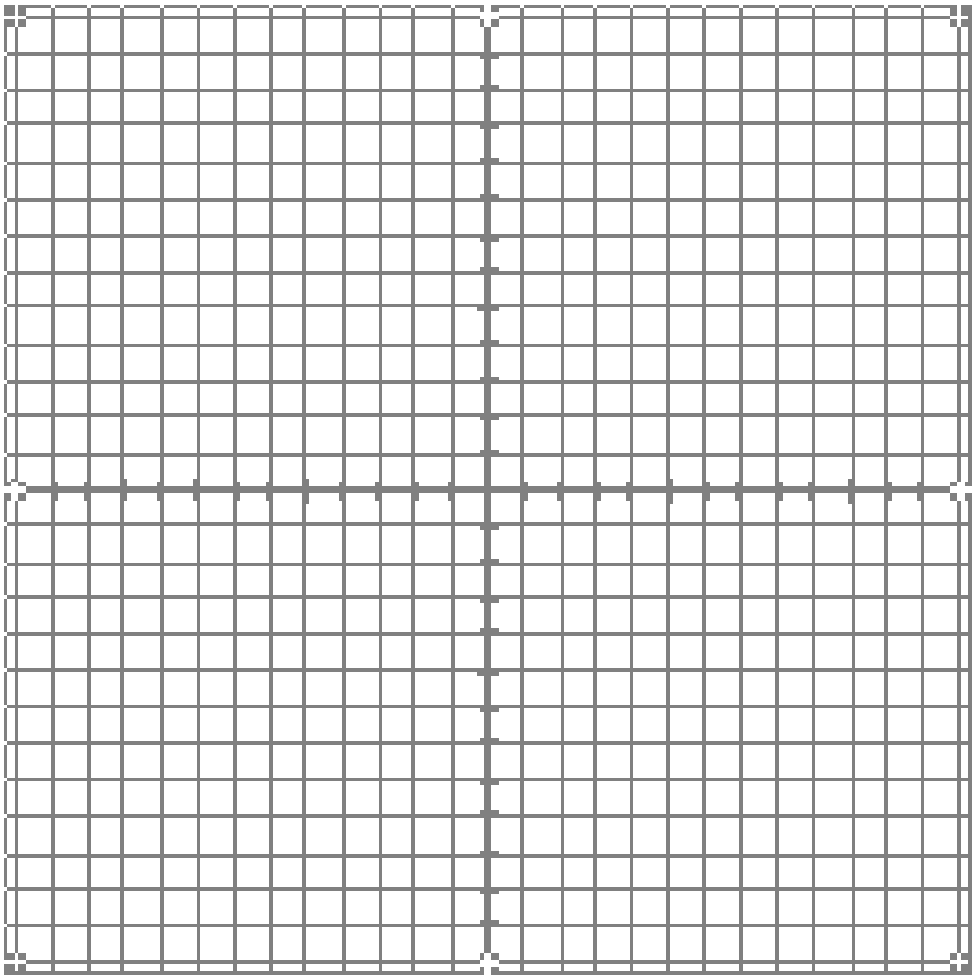


57. y = -4

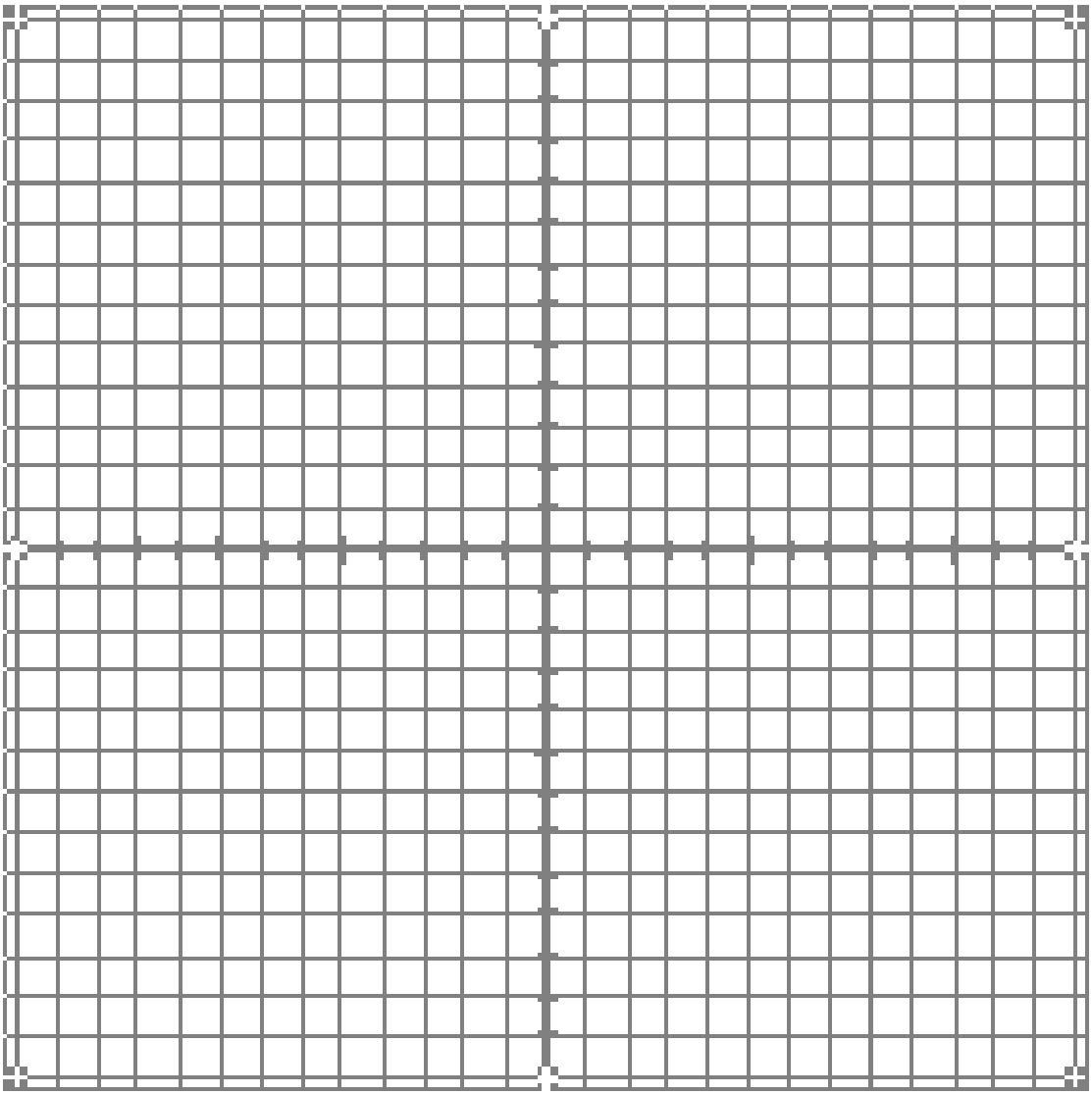


Solve each equation for y. Identify the slope and y-intercept. Then graph each equation.

58. $2x + y = 3$



59. $y - x = 5$



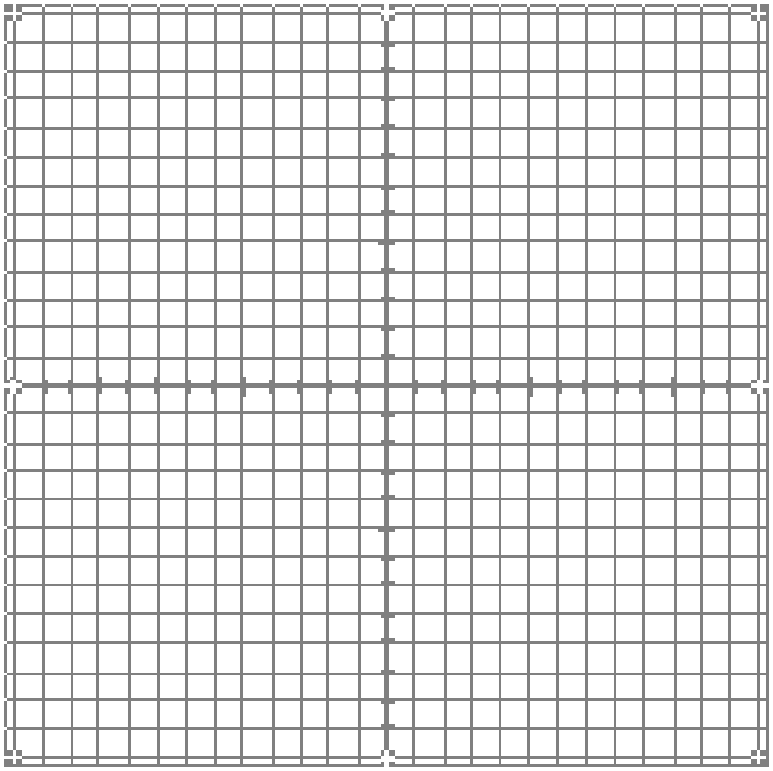
Find the slope of the line through each pair of points.

60. A(2, 6), B (8, 1)

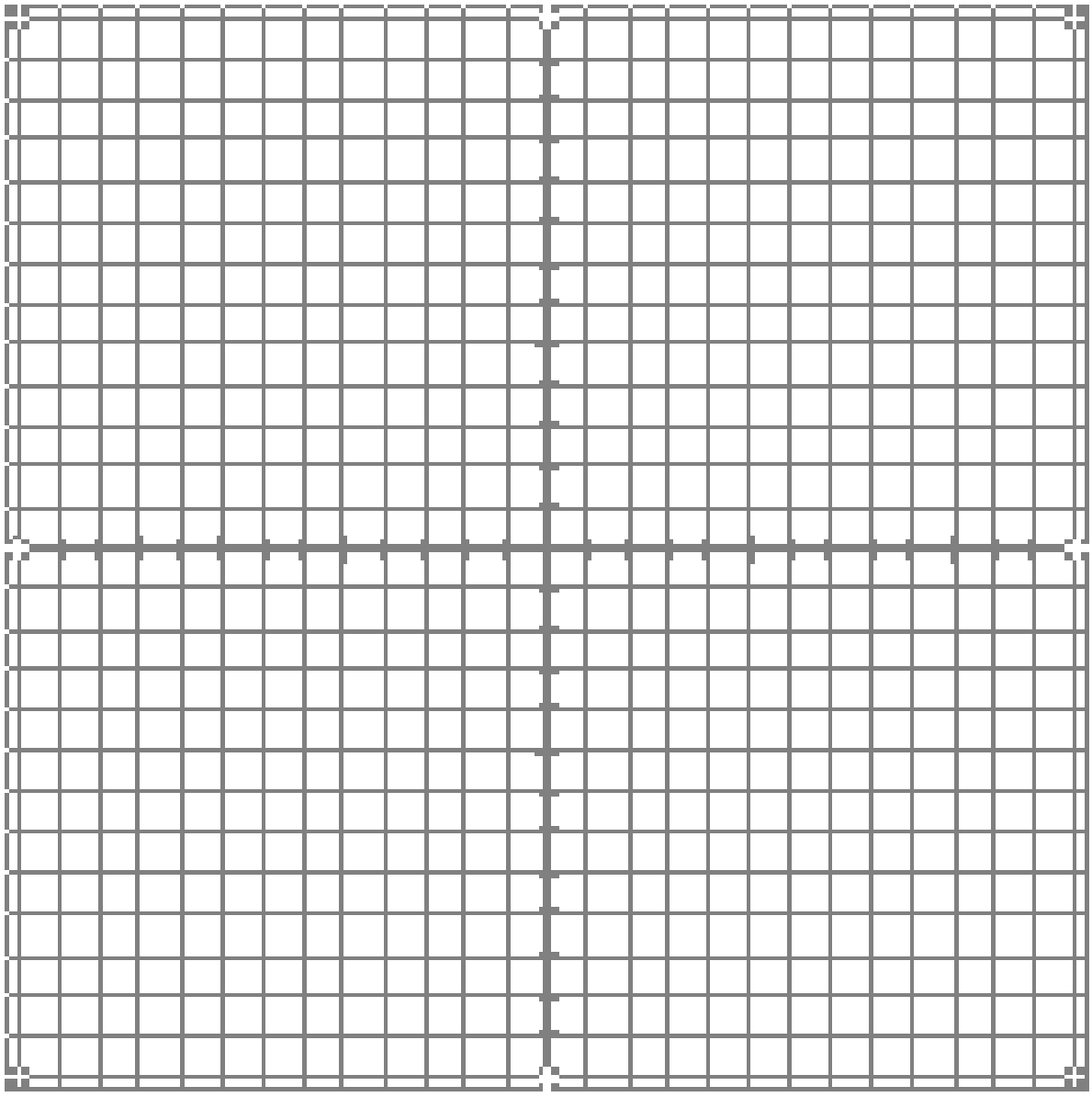
61. E(1, -2), F (4, -8)

Solve and graph each system of linear equations.

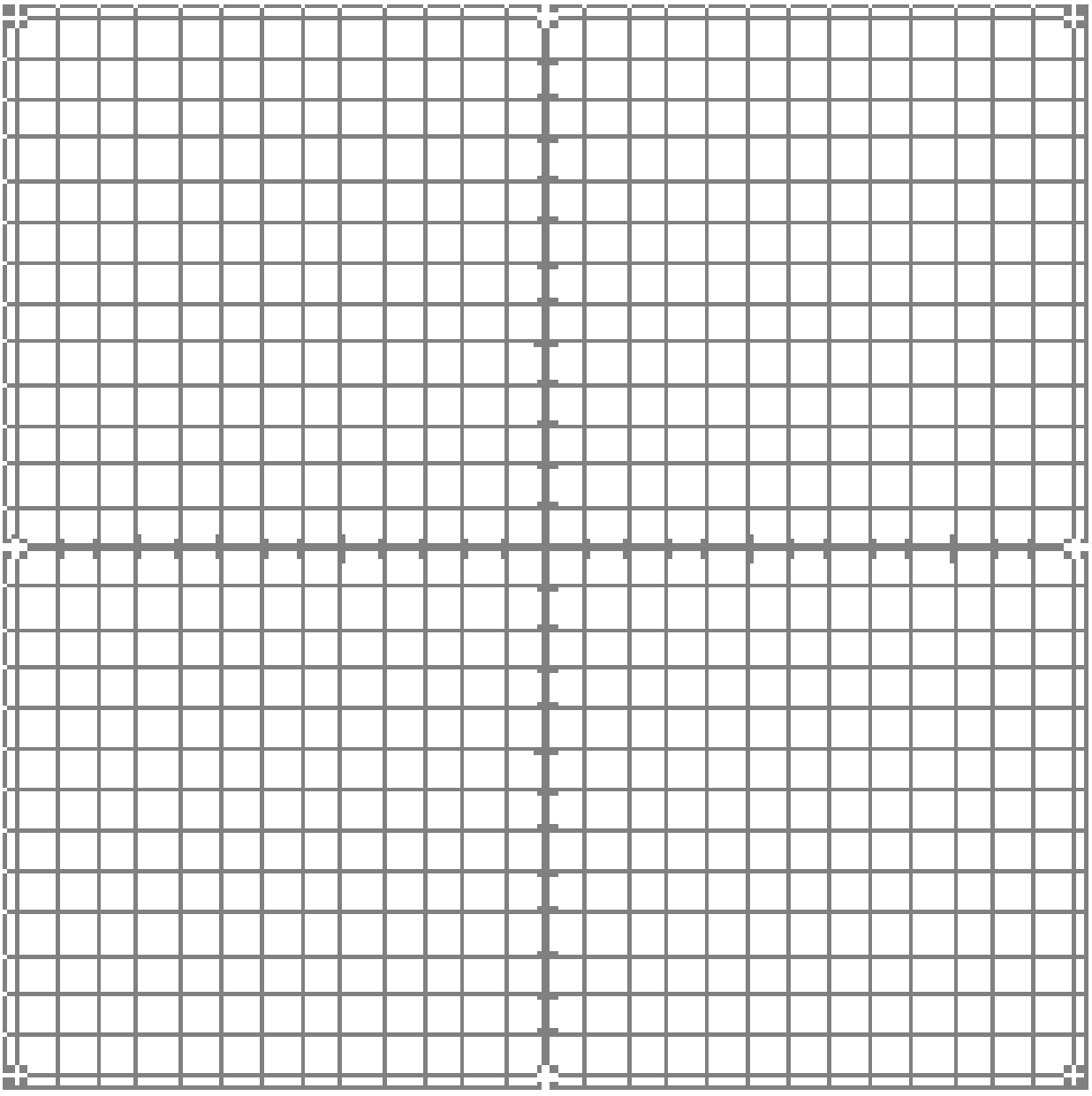
62. $y = 3x - 3$
$X + y = 1$



63. $y = x - 6$
$X - y = 6$

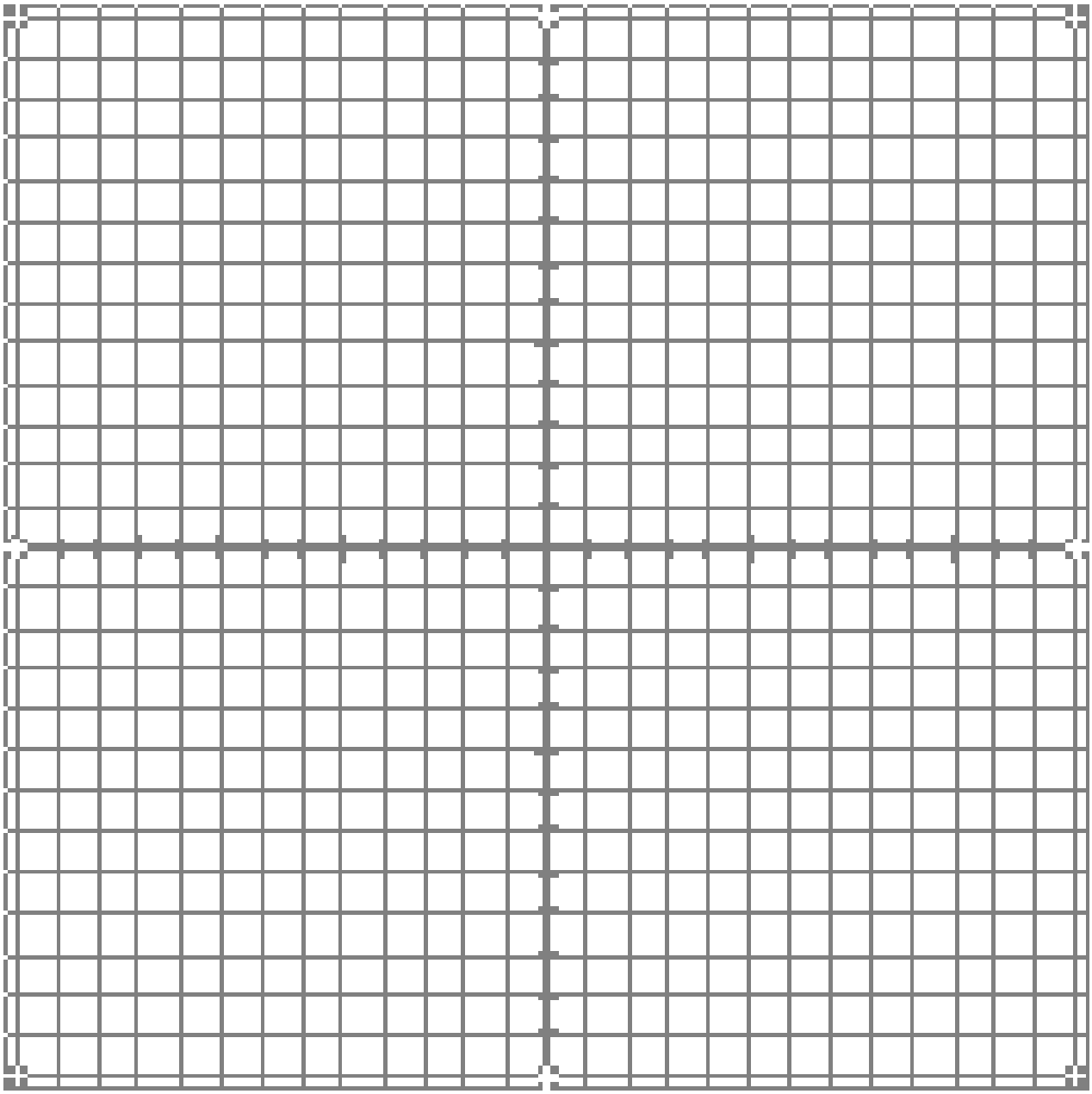


64. $y = x + 4$
$y = x$

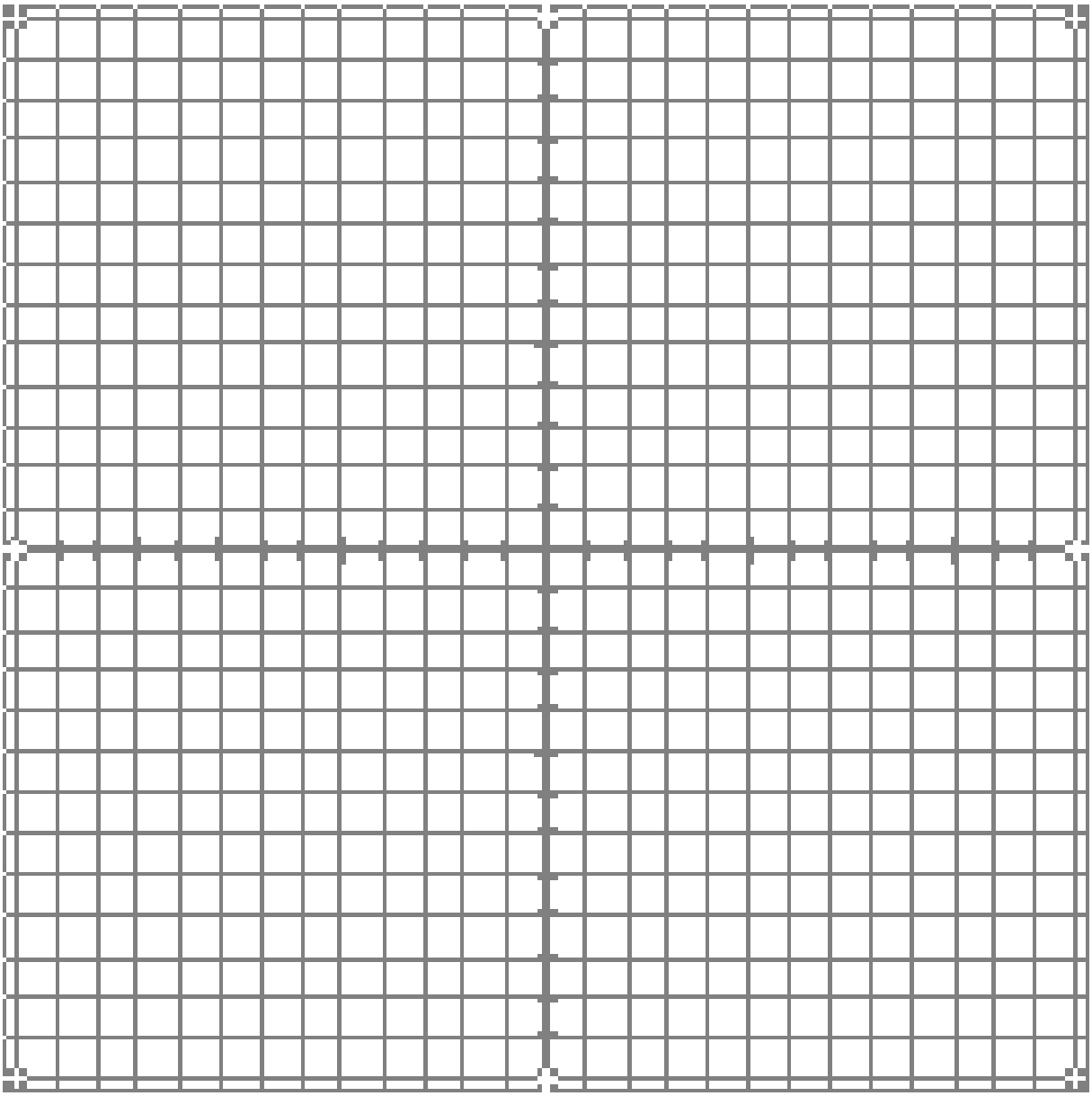


Graph each inequality on its own coordinate plane.

65. $y \geq 3x - 1$

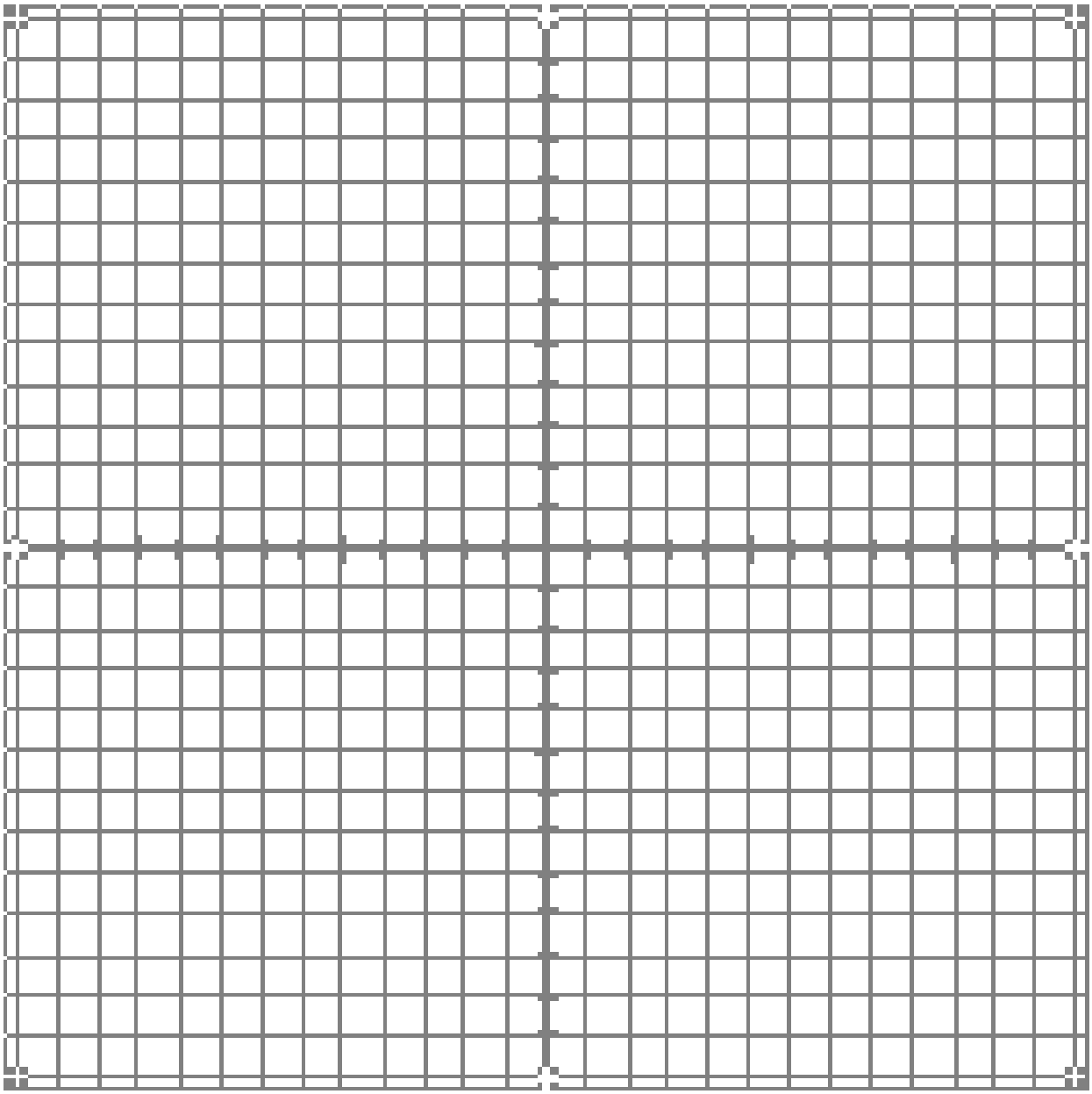


66. $y > -x + 3$

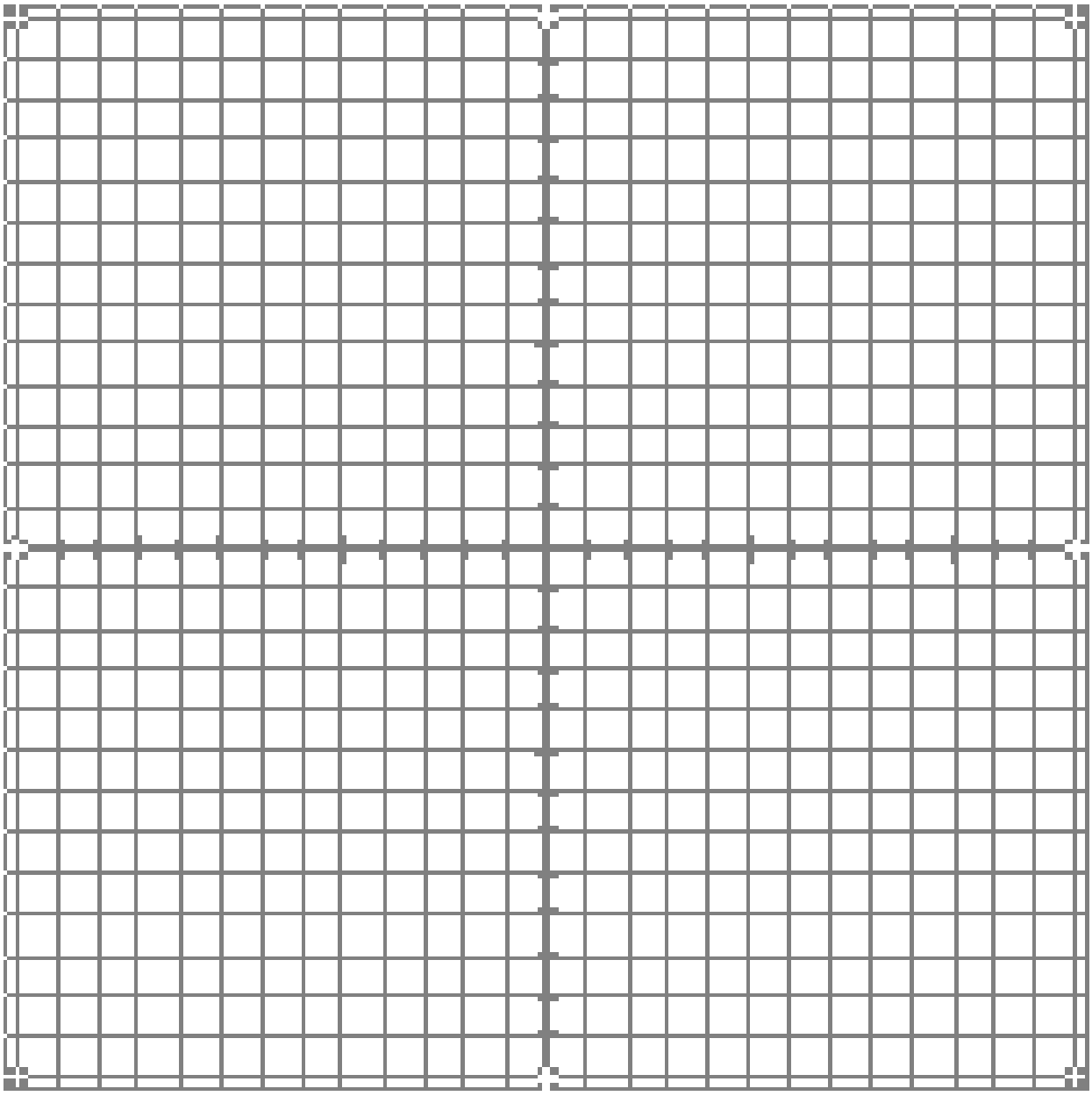


Solve each system by graphing.

67. $y \leq -2x - 5$
$Y < 1/2x$



68. $y > x - 1$
$Y < 3x + 4$



Adding and Subtracting Polynomials

69. $(2x^2 + 3x - 1) + (x^2 + x - 3)$

70. $(7x^2 + 7x) + (2x^2 + 3x)$

71. $(5x^2 + 10x) - (3x - 12)$

72. $(7x^2 - 2x) - (5x^2 + 3x)$

Multiplying Polynomials

73. $2x\,(5x^2 + 6)$

74. $6x^2\ (2x^2 - 3\ + 8x)$

75. $(x + 6)\,(2x + 4)$