Chapter 3 Review

On paper, mark two intersecting axes, *x* and *y*, and plot the following sets of coordinates. (3.1)

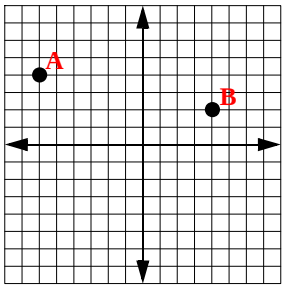
1. (6,0)
2. (–7,–9)
3. (2,8)
4. (9,–1)
5. (–8,7)
6. (4,–12)
7. (1,–1.5)
8. (–8.5,–3)
9. (3,–8)
10. (7,7.5)
11. (–7,6)
12. (–2.5,–8)
13. (–1.5,–5)
14. (3.5,–6)
15. (7.5,4.5)

Plot the points given. Join the dots and determine the geometric figure that forms. (3.1)

16. (–2,2), (–4,3), (–4,1)
17. (1,4), (–1,4), (–1,–4), (–3,–4)
18. (–2,–1), (–1,1), (1,1), (3,–1)
19. (2,4), (5,4), (0,–5), (7,–5)
20. (0,–2), (0,–4), (2,–2), (2,–4)
21. (–5,2), (–5,–3), (–1,5), (–1,–5)

Write the coordinates for each point. (3.1)

22.



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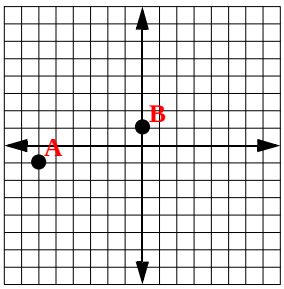
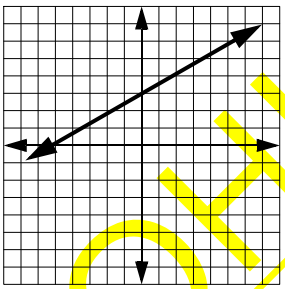


Write the linear equation for each line (3.2)

24.



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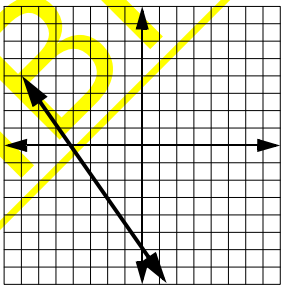


On separate graph paper, plot the line that represents each of the following equations. (3.2)

26. $y = 2x + 7$
27. $y = 3x - 4$
28. $y = x - 2$
29. $y = -4x + 1$
30. $y = -5x - 1$
31. $y = \frac{5}{6}x + 6$
32. $y = -5x - 7$
33. $y = \frac{4}{3}x$
34. $y = -\frac{3}{4}x + \frac{1}{5}$
35. $y = -3.5x - 7$
36. $y = 1.8x - 2$
37. $y = 1.5x - 8$
38. $y = 3.8x - 6$

Find the slope and *y*-intercept. (3.3)

39. $y = -x + 2$
40. $y = -\frac{2}{3}x - 4$
41. $y = 0.5x - 5$
42. $y = -6x - 12$
43. $y = 3x - 6$
44. $y = -3x + 1$
45. $2x - y = 7$
46. $y = \frac{4}{3}x - 8$
47. $y = -3x + \frac{3}{4}$
48. $3x + 2y = 1$
49. $5x - 8y = 9$
50. $9y - 7x = 12$
51. $-6y - 5x + 3 = 0$

Write the slope-intercept equation ($y = mx + b$) that contains each set of points shown. (3.3)

52. (0,6), (–7,–3)
53. (–3,4), (8,–9)
54. (–8,–8), (4,4)
55. (2,–1), (5,6)
56. (–8,4), (5,9)
57. (–4,–6), (3,–2)
58. (8,6), (4,–1)
59. (–2,–4), (–7,0)
60. (2,6), (0,–4)
61. (4,8), (–4,–2)
62. (16,13), (18,10)
63. (–3,17), (–16,–6)

Write the standard equation ($ax + by = c$) that contains the point and has the slope shown. (3.3)

64. (–4,6) $m = -1$
65. (0,–3) $m = -4$
66. (–7,6) $m = 2$
67. (–8,13) $m = -\frac{2}{5}$
68. (–5,1) $m = 3$
69. (9,–6) $m = \frac{3}{2}$
70. (9,2) $m = -7$

Write a table for each equation. From the table, find the slope and *y*-intercept. (3.3)

71. $x - y = 4$
72. $2x - y = 3$
73. $3y + x + 5 = 0$
74. $3y + 4x = -2$
75. $\frac{3}{2}x + \frac{1}{3}y = 6$
76. $5x - 6y = 3$
77. $5a - 3b + 5 = 0$
78. $6x + 7y = -3$

Find the slope and *y*-intercept. Plot the line and label it either standard or slope-intercept. (3.3)

1.

x	y
0	–2
1	0
2	2
3	4

2.

x	y
–1	0
–2	3
–3	6
–4	9

3.

x	y
5	10
8	12
11	14
14	16

4.

x	y
0.5	1.4
1.0	2.8
1.5	4.2
2.5	5.6

Find the slope and determine if the lines are parallel, perpendicular or neither. (3.4)

5. $x + y = 3$
   $x = -y + 3$

6. $2x - y = 7$
   $2y = -x + 4$

7. $y = \frac{3}{4}x + 2$
   $4y = 3x + 2$

8. $x - 3y + 6 = 0$
   $x + 3y = 9$

9. $y = -3x - 2$
   $3x + y - 5 = 0$

10. $2x + y = 7$
    $8 = -y - 2x$

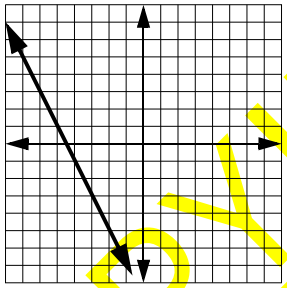
11. Write an equation for the line which is parallel to $2x - 5y = 15$ and passes through point (5, –4).
12. Write an equation for the line which is perpendicular to $y + 3x = -1$ and passes through point (–8,2).
13. Write an equation for the line which is parallel to $y = -4x - 2$ and passes through point (–1,7)

On a sheet of graph paper, graph the following equations. (3.5)

14. $y = -2x + 1$
15. $y = -4x - 5$
16. $y = -x + 7$
17. $14 = 6x - 2y$
18. $\frac{1}{3}x + \frac{5}{6}y = 5$
19. $5x - y = 18$
20. $3y - 2x = -3$
21. $6 = 7x - 3y$
22. $3y = 4x - 9$
23. $\frac{3}{4}x + y = 5$

Write the equation for the lines shown in the graphs below. (3.5)

24.



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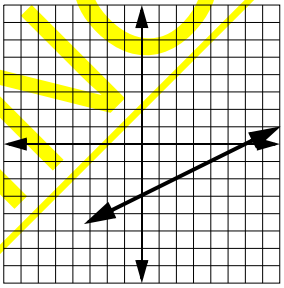

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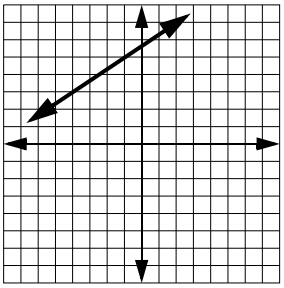

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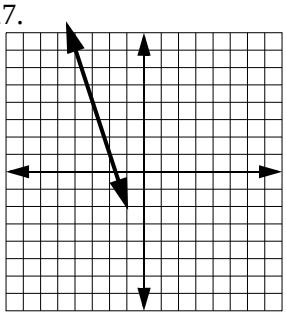

Linear models. (3.6)

28. A contract stipulates that a consultant will be paid a base salary of $6,900 per month plus $17 for every unit fixed. Write an equation for this linear model and then find a week's salary for 85 units.
29. For every sales lead, Natasha gets $7; however, if she has zero leads for any week, she still gets her $450 base pay. Write the linear equation of her model and find her wages for a week with 52 leads.
30. To move, Kambrel rents a truck for a few hours. Build a linear model to predict his costs using the following specifications: It costs $27 per day and $0.52 per mile to rent the truck he wants.
31. While planning her daughter's wedding, Gerry quotes a hall that rents for $1,250 per night, and a caterer at $58 per person. Write the equation that represents this wedding's model and find the cost of inviting 60 guests.