

Chapter 3 Test

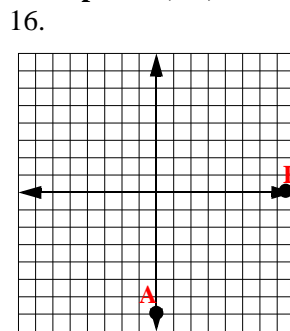
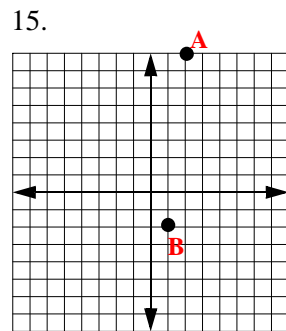
On paper, mark two intersecting axes, x and y , and plot the following sets of coordinates. (3.1)

- | | | | | |
|------------|-----------|-------------|--------------|-------------|
| 1. (5,7) | 3. (3,4) | 5. (-2,8) | 7. (4,-2.5) | 9. (1,-6) |
| 2. (-9,-3) | 4. (5,-5) | 6. (13,-17) | 8. (-2.5,-6) | 10. (1,9.5) |

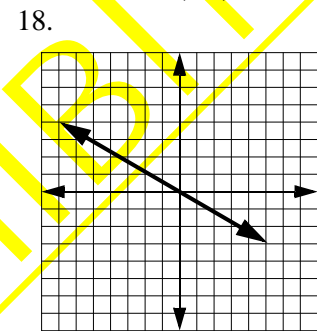
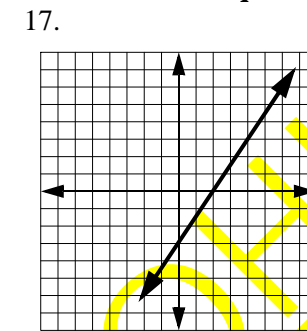
Plot the points given. Join the dots and determine the geometric figure that forms. (3.1)

- | | |
|-------------------------------------|--|
| 11. (-4,4), (-8,6), (-8,2) | 13. (-1,-0.5), (-0.5,5), (4,-0.5), (4,5) |
| 12. (2,8), (-2,8), (-4,-8), (-6,-8) | 14. (1,2), (1.5,2), (1.5,-2.5), (1,-2.5) |

Write the coordinates for each point. (3.1)



Write the linear equation for each line (3.2)



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

- | | | | |
|------------------|---------------------|-----------------------------|-----------------------------|
| 19. $y = x + 8$ | 22. $y = -2x + 4.5$ | 25. $y = \frac{2}{3}x + 2$ | 27. $y = \frac{8}{5}x + 5$ |
| 20. $y = 4x - 5$ | 23. $y = -9x - 2$ | 26. $y = -\frac{8}{3}x - 1$ | 28. $y = -\frac{6}{7}x + 3$ |
| 21. $y = 2x - 2$ | 24. $y = -3x - 1.5$ | | |

Find the slope and y -intercept. (3.3)

- | | | | |
|-----------------------------|--------------------|-------------------|-----------------------------|
| 29. $y = -2x + 4$ | 31. $y = 0.7x - 2$ | 34. $y = -8x + 5$ | 37. $y = \frac{5}{9}x - 8$ |
| 30. $y = -\frac{4}{7}x - 2$ | 32. $y = -3x - 6$ | 35. $3x - y = 5$ | 38. $y = -7x + \frac{1}{2}$ |
| 33. $y = 4x - 9$ | 36. $y = -5x - 3$ | | |

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

- | | | | |
|--------------------|---------------------|----------------------|-----------------------|
| 39. (1,5), (-6,-2) | 42. (0,-3), (3,4) | 45. (9,7), (5,-2) | 48. (8,10), (-2,0) |
| 40. (-2,3), (7,-8) | 43. (-6,2), (3,7) | 46. (-3,-5), (-8,-1) | 49. (4,1), (6,2) |
| 41. (-7,-7), (5,5) | 44. (-4,-4), (2,-0) | 47. (5,9), (3,-7) | 50. (-1,15), (-18,-8) |

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

- | | | |
|---------------------|-------------------------------|------------------------------|
| 51. (-2,4) $m = -2$ | 54. (-8,9) $m = -\frac{3}{2}$ | 56. (6,-3) $m = \frac{4}{3}$ |
| 52. (4,-2) $m = -1$ | 55. (-6,2) $m = 4$ | 57. (7,0) $m = -5$ |
| 53. (-5,3) $m = 3$ | | |

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

- | | | |
|------------------|----------------------|---------------------------------------|
| 58. $x + y = 5$ | 60. $y + 5x + 7 = 0$ | 62. $\frac{2}{3}x + \frac{1}{4}y = 2$ |
| 59. $x - 3y = 4$ | 61. $4y + 5x = -5$ | 63. $3x - 2y = 9$ |

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

64.

x	y
1	3
2	5
3	7
4	9

65.

x	y
-5	-3
-6	1
-7	5
-8	9

66.

x	y
-4	7
-2	5
0	3
2	1

67.

x	y
1.5	5
3	8
4.5	11
6	14

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

68. $x + y = 4$

$x = y + 3$

70. $-5y = 7x - 8$

$5y = 7x + 8$

72. $y = -5x - 1$

$5x + y - 3 = 0$

69. $3x - y = 4$

$3y = -x + 2$

71. $x - 2y + 5 = 0$

$x + 2y = 8$

73. $6x + y = 9$

$5 = -y - 6x$

74. Write an equation for the line which is perpendicular to $x - y = 4$ and passes through point $(2, -7)$.

75. Write an equation for the line which is parallel to $y + 5x = -2$ and passes through point $(5, 1)$.

76. Write an equation for the line which is perpendicular to $y = -3x - 7$ and passes through point $(-1, 3)$.

On graph paper, plot the following equations. (3.5)

77. $y = -3x + 8$

80. $12 = 7x - 5y$

82. $8x - y = 6$

78. $y = -5x - 4$

81. $\frac{3}{2}x + \frac{1}{4}y = 1$

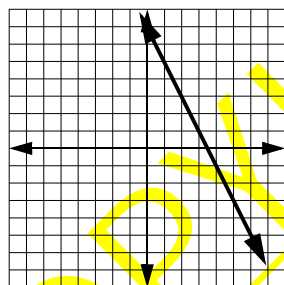
83. $4y - 9x = -5$

79. $y = -3x + 1$

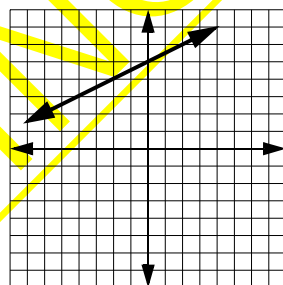
84. $7 = 6x - 2y$

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

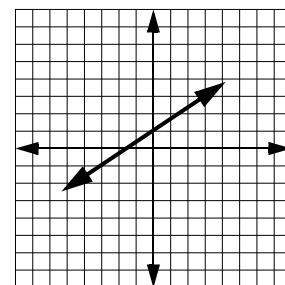
85.



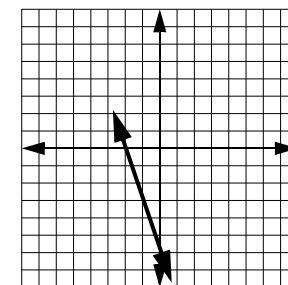
86.



87.



88.



Linear models. (3.6)

89. A labor contract requires that two inspectors must be present for every 15 trucks dumping waste. Write an equation for this linear model and then determine the number of inspectors needed for 92 trucks.

90. The weight of an empty truck is 8,800 pounds. If it carries boxes that weigh 9 pounds each, write a linear equation for this model and calculate the total weight when it carries 144 boxes.

91. A contract requires renters to pay \$200 for the use of a concrete mixer, plus \$14 for every day the mixer is used. Write an equation that shows this and find the rental cost for 4 days.

92. A law firm charges \$5,000 per case, plus \$135 for every legal aide assigned to the case. If a case requires 12 aides, write the linear equation that shows this and calculate the bill for this case.