

Practice 10

For use with Section 2-2

For Exercises 1-9, write an equation for the line through each pair of points.

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| 1. (0, 3) and (4, 11) | 2. (2, 7) and (4, 1) |
| 3. (-4, 7) and (1, 2) | 4. (8, -1) and (6, 3) |
| 5. (-1, -2) and (5, 1) | 6. (6, -13) and (4, -5) |
| 7. (-10, 3) and (-5, 1) | 8. (4, 3) and (-2, -1) |
| 9. (1, -6) and (3, -9) | |

For each equation in Exercises 10-18: a. Identify the slope and the vertical intercept of the graph. b. Draw the graph. c. Write *increasing function*, *decreasing function*, or *constant function* to describe the graph.

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|-----------------------------|----------------------------|---------------------|
| 10. $y = x + 1.5$ | 11. $y = -2x + 7$ | 12. $y = 4x$ |
| 13. $y = -3.2$ | 14. $y = -0.5x - 1$ | 15. $y = 3x - 5$ |
| 16. $y = -\frac{3}{2}x + 7$ | 17. $y = \frac{1}{3}x - 4$ | 18. $y = -3x + 2.5$ |

19. Jamyce Patterson works as a house painter. She has kept a log of the times it has taken her to paint walls of various sizes.

Time t (hours)	Wall Area Covered A (square meters)
1.5	24
2.5	40
3	48
4.5	72
7.5	120

- a. Find the ratio $\frac{A}{t}$ for each pair of data values.
- b. Is direct variation a good model for the data? If so, what is the variation constant?
- c. Write an equation that models the situation.
- d. Graph your equation.
- e. How long would it take Jamyce to paint a wall whose area is 56 m^2 ?
- f. What area would Jamyce be able to paint in 9 hours?
20. *Open-ended* Suppose you are the manager of a company that produces cassette tape players. Do you think the cost of producing the players will vary directly with the number of players produced? Explain.