

Practice B

For use with pages 91–98

Write an equation of the line that has the given slope and y -intercept.

1. $m = 4, b = -4$

2. $m = -6, b = 3$

3. $m = \frac{4}{3}, b = 6$

4. $m = -\frac{1}{2}, b = -4$

5. $m = 8, b = 0$

6. $m = 0, b = 5$

Write an equation of the line that passes through the given point and has the given slope.

7. $(2, 1), m = -2$

8. $(-4, 3), m = 5$

9. $(7, -5), m = 1$

10. $(-1, -10), m = 3$

11. $(\frac{1}{2}, 4), m = -8$

12. $(\frac{2}{3}, 0), m = -4$

Write an equation of the line that passes through the given points.

13. $(-2, 1), (2, 4)$

14. $(-1, 3), (1, -1)$

15. $(-3, -1), (3, 2)$

16. $(4, -2), (6, -3)$

17. $(1, 5), (-4, 0)$

18. $(3, -7), (-2, 3)$

19. $(-6, 1), (-5, 4)$

20. $(-3, -2), (4, 1)$

21. $(10, -4), (6, -10)$

The variables x and y vary directly. Write an equation that relates the variables. Then find y when $x = 10$.

22. $x = 2, y = 6$

23. $x = -1, y = 5$

24. $x = 4, y = -10$

25. $x = 1, y = 0.25$

26. $x = -8, y = 2$

27. $x = \frac{1}{3}, y = \frac{9}{10}$

Measuring Speed In Exercises 28 and 29, use the following information.

The speed of an automobile in miles per hour varies directly with its speed in kilometers per hour. A speed of 64 miles per hour is equivalent to a speed of 103 kilometers per hour.

28. Write a linear model that relates speed in miles per hour to speed in kilometers per hour.

29. You are driving through Canada and see a speed limit sign that says the speed limit is 80 kilometers per hour. You are traveling 55 miles per hour. Are you speeding?

Fish and Shellfish Consumption In Exercises 30 and 31, use the following information.

For 1992 through 1994, the per capita consumption of fish and shellfish in the U.S. increased at a rate that was approximately linear. In 1992, the per capita consumption was 14.7 pounds, and in 1994 it was 15.1 pounds.

30. Write a linear model for the per capita consumption of fish and shellfish in the U.S. Let t represent the number of years since 1992.

31. What would you expect the per capita consumption of fish and shellfish to be in 2002?