Name _____ Date _____

Additional Exercises 3.5
Form I
The Point-Slope Form of the Equation of a Line

(a) Find the point-slope form of the line satisfying the given conditions and use this to write the (b) slope-intercept form of the equation.

1. Slope = 1, passing through (2, 1)
   1a. _____
   b. _____

2. Slope = –2, passing through (4, 4)
   2a. _____
   b. _____

3. Slope = 4, passing through (0, 2)
   3a. _____
   b. _____

4. Slope = 8, passing through (4, 2)
   4a. _____
   b. _____

5. Slope = –9, passing through (4, 3)
   5a. _____
   b. _____

6. Slope = 5, passing through (–3, –4)
   6a. _____
   b. _____

7. Passing through (0, 1) and (4, 5)
   7a. _____
   b. _____

8. Passing through (0, 8) and (2, 6)
   8a. _____
   b. _____

Copyright © 2013 Pearson Education, Inc.

Name _____ Date _____

9. Passing through (2, 0) and (4, 2)

9a. _____

b. _____

10. Passing through (–4, 1) and (–1, 4)

10a. _____

b. _____

11. Passing through (12, 16) and (1, 5)

11a. _____

b. _____

12. Passing through (–1, 2) and (–3, –2)

12a. _____

b. _____

13. Passing through (–3, 5) and (–1, 3)

13a. _____

b. _____

14. A faucet is used to add water to a large bottle that already contained some water. After it has been filling for 5 seconds, the gauge on the bottle indicates that it contains 22 ounces of water. After it has been filling for 11 seconds, the gauge indicates the bottle contains 46 ounces of water. Let y be the amount of water in the bottle x seconds after the faucet was turned on. Write a linear equation that models the amount of water in the bottle in terms of x.

14. _____

15. A vendor has learned that, by pricing hot dogs at $1.00, sales reach 135 hot dogs per day. Raising the price to $1.75 will cause the sales to fall to 105 hot dogs per day. Let y be the number of hot dogs the vendor sells at x dollars each. Write a linear equation that models the number of hot dogs per day when the price is x dollars each.

15. _____

Copyright © 2013 Pearson Education, Inc.

Name _____ Date _____

Additional Exercises 3.5
Form II
The Point-Slope Form of the Equation of a Line

(a) Find the point-slope form of the line satisfying the given conditions and use this to write the (b) slope-intercept form of the equation.

1. Slope = $\frac{5}{3}$, passing through (0, 5) 1a. _____

b. _____

2. Slope = $-\frac{2}{3}$, passing through (0, 2) 2a. _____

b. _____

3. Slope = $-\frac{3}{5}$, passing through (10, 3) 3a. _____

b. _____

4. Slope = $\frac{5}{3}$, passing through (0, 5) 4a. _____

b. _____

5. Slope = $-\frac{4}{5}$, passing through (–5, 10) 5a. _____

b. _____

6. Slope = $\frac{3}{4}$, passing through (8, –8) 6a. _____

b. _____

7. Passing through (1, –5) and (–5, 1) 7a. _____

b. _____

Copyright © 2013 Pearson Education, Inc.

Name _____ Date _____

8. Passing through (0, –3) and (3, 6)

8a. _____

b. _____

9. Passing through (–1, –9) and (–3, –15)

9a. _____

b. _____

10. Passing through (2, 3) and (–6, 1)

10a. _____

b. _____

11. Passing through (4, 2) and (0, 4)

11a. _____

b. _____

12. Passing through (0, 0) and (1, 5)

12a. _____

b. _____

13. Passing through (3, 0) and (0, –4)

13a. _____

b. _____

14. When making a telephone call using a calling card, a call lasting 3 minutes cost $1.05. A call lasting 11 minutes cost $2.65. Let y be the cost of making a call lasting x minutes using a calling card. Write a linear equation that models the cost of making a call lasting x minutes.

14. _____

15. A vendor has learned that, by pricing caramel apples at $1.25, sales will reach 133 caramel apples per day. Raising the price to $2.25 will cause the sales to fall to 81 caramel apples per day. Let y be the number of caramel apples the vendor sells at x dollars each. Write a linear equation that models the number of caramel apples sold per day when the price is x dollars each.

15. _____

Copyright © 2013 Pearson Education, Inc.

Name _____ Date _____

Additional Exercises 3.5
Form III
The Point-Slope Form of the Equation of a Line

(a) Find the point-slope form of the line satisfying the given conditions and use this to write the (b) slope-intercept form of the equation.

1. Slope = $-\frac{1}{3}$, passing through (1, –5) 1a. _____

b. _____

2. Slope = $-\frac{2}{7}$, passing through (2, 4) 2a. _____

b. _____

3. Slope = $-\frac{4}{5}$, passing through (–1, 2) 3a. _____

b. _____

4. Slope = $\frac{3}{4}$, passing through (1, 0) 4a. _____

b. _____

5. Slope = $\frac{1}{2}$, passing through (2, –5) 5a. _____

b. _____

6. Slope = $\frac{3}{5}$, passing through (–1, 4) 6a. _____

b. _____

7. Passing through (1, 2) and (–3, 5) 7a. _____

b. _____

Copyright © 2013 Pearson Education, Inc.

Name _____ Date _____

8. Passing through (4, 7) and (–1, 6)

8a. _____

b. _____

9. Passing through (–2, 5) and (4, 6)

9a. _____

b. _____

10. Passing through (3, 3) and (–5, 7)

10a. _____

b. _____

11. Passing through (3, –5) and (2, –6)

11a. _____

b. _____

12. Passing through (0, 2) and (2, 1)

12a. _____

b. _____

13. Passing through (15, 7) and (5, –1)

13a. _____

b. _____

14. The average value of a certain type of automobile was $13,440 in 1993 and depreciated to $4860 in 1996. Let y be the average value of the automobile in the year x, where $x = 0$ represent 1993. Write a linear equation that models the value of the automobile in terms of the year x.

14. _____

15. An investment is worth $2342 in 1995. By 1999 it has grown to $3930. Let y be the value of the investment in the year x, where $x = 0$ represents 1995. Write a linear equation that models the value of the investment in the year x.

15. _____

Copyright © 2013 Pearson Education, Inc.