

Write an equation in slope-intercept form of the line with the given slope and y -intercept.

1. slope: 5
 y -intercept: -7

2. slope: $\frac{2}{5}$
 y -intercept: -2

3. slope: $-\frac{4}{3}$
 y -intercept: 1

Write an equation in slope-intercept form of the line that passes through the given point and has the given slope m .

4. $(-2, -8)$; $m = 3$

5. $(1, 1)$; $m = -4$

6. $(-1, 3)$; $m = -6$

Write an equation in point-slope form of the line that passes through the given points.

7. $(4, 5)$, $(2, 9)$

8. $(-2, 2)$, $(8, -3)$

9. $(3, 4)$, $(1, -6)$

Write an equation in standard form of the line with the given characteristics.

10. Slope: 10; passes through $(6, 2)$

11. Passes through $(-3, 2)$ and $(6, -1)$

Write an equation of the line that passes through the given point and is (a) parallel to the given line and (b) perpendicular to the given line.

12. $(2, 0)$, $y = -5x + 3$

13. $(-1, 4)$, $y = -x - 4$

14. $(4, -9)$, $y = \frac{1}{4}x + 2$

Make a scatter plot of the data. Draw a line of fit. Write an equation of the line.

15.

x	0	1	2	3	4
y	15	35	53	74	94

16.

x	0	2	4	8	10
y	-2	6	15	38	50

17. **FIELD TRIP** Your science class is taking a field trip to an observatory. The cost of a presentation and a tour of the telescope is \$60 for the group plus an additional \$3 per person. Write an equation that gives the total cost C as a function of the number of people p in the group.

18. **GOLF FACILITIES** The table shows the number of golf facilities in the United States during the period 1997–2001.

- Make a scatter plot of the data where x is the number of years since 1997 and y is the number of golf facilities (in thousands).
- Write an equation that models the number of golf facilities (in thousands) as a function of the number of years since 1997.
- At about what rate did the number of golf facilities change during the period 1997–2001?
- Use the equation from part (b) to predict the number of golf facilities in 2004.
- Predict the year in which the number of golf facilities reached 16,000. *Explain* how you found your answer.

Year	Golf facilities (thousands)
1997	14.6
1998	14.9
1999	15.2
2000	15.5
2001	15.7