



Vocabulary and Concept Check

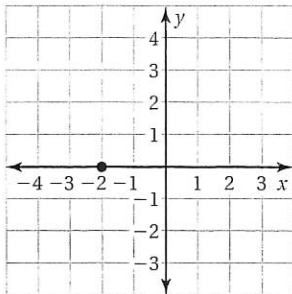
- VOCABULARY** From the equation $y - 3 = -2(x + 1)$, identify the slope and a point on the line.
- WRITING** Describe how to write an equation of a line using (a) its slope and a point on the line and (b) two points on the line.



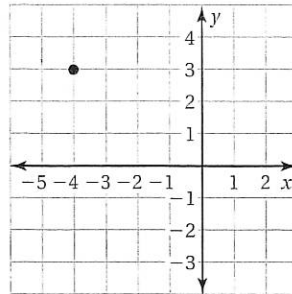
Practice and Problem Solving

Use the point-slope form to write an equation of the line with the given slope that passes through the given point.

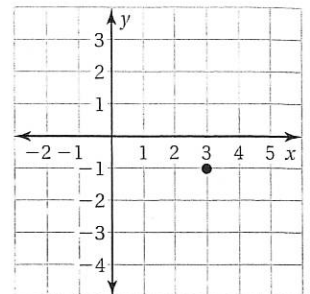
3. $m = \frac{1}{2}$



4. $m = -\frac{3}{4}$



5. $m = -3$



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

① 6. $(3, 0); m = -\frac{2}{3}$

7. $(4, 8); m = \frac{3}{4}$

8. $(1, -3); m = 4$

9. $(7, -5); m = -\frac{1}{7}$

10. $(3, 3); m = \frac{5}{3}$

11. $(-1, -4); m = -2$

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

② 12. $(-1, -1), (1, 5)$

13. $(2, 4), (3, 6)$

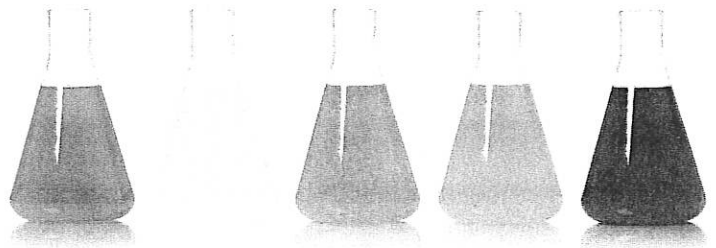
14. $(-2, 3), (2, 7)$

15. $(4, 1), (8, 2)$

16. $(-9, 5), (-3, 3)$

17. $(1, 2), (-2, -1)$

18. **CHEMISTRY** At 0°C , the volume of a gas is 22 liters. For each degree the temperature T (in degrees Celsius) increases, the volume V (in liters) of the gas increases by $\frac{2}{25}$. Write an equation that represents the volume of the gas in terms of the temperature.

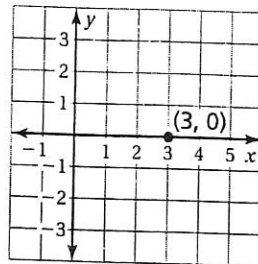
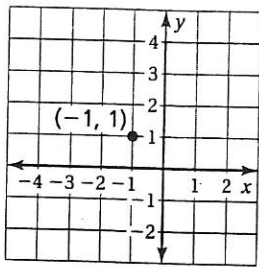


4.7 Practice A

Use the point-slope form to write an equation of the line with the given slope that passes through the given point.

1. $m = 3$

2. $m = -\frac{2}{3}$



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

3. $(4, -2); m = \frac{1}{4}$

4. $(-3, 5); m = -\frac{4}{3}$

5. $(2, 2); m = -1$

6. $(-1, -5); m = 4$

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

7. $(-3, -4), (6, -1)$

8. $(-4, 12), (2, -3)$

9. $(-1, -2), (1, -6)$

10. $(-2, -9), (1, 6)$

11. After a laptop is purchased, its value decreases by \$150 each year. After 2 years, the laptop is worth \$600.

a. Write an equation that represents the value V (in dollars) of the laptop x years after it is purchased.

b. What was the original value of the laptop?

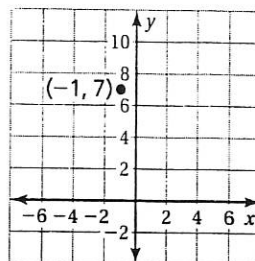
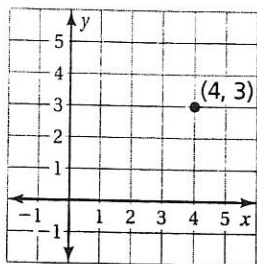
c. What is the value of the laptop 5 years after it is purchased?

4.7 Practice B

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

1. $m = \frac{5}{4}$

2. $m = -4$



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

3. $(-6, 3); m = \frac{1}{3}$

4. $(8, -7); m = -\frac{3}{4}$

5. $(-1, -5); m = 2$

6. $(-2, 8); m = -3$

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

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

8. $(-5, -8), (10, 4)$

9. $(-6, 4), (6, 0)$

10. $(2, 4), (4, 9)$

11. You are pulling a kite back to the ground at a rate of 2 feet per second. After 4 seconds, the kite is 16 feet above the ground.

- Write an equation that represents the height y (in feet) above the ground after x seconds.
- At what height was the kite when you started pulling it in?
- When does the kite touch the ground?