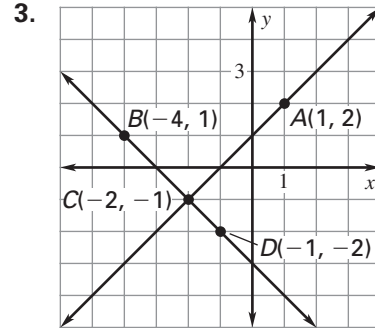
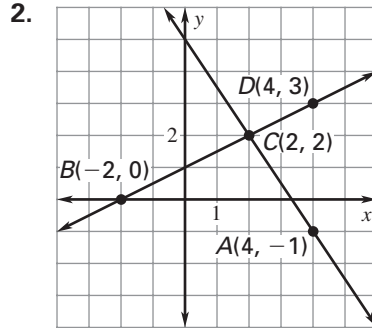
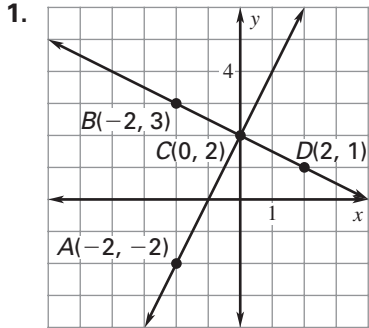


**Practice A**

For use with pages 172–178

Find the slope of  $\overleftrightarrow{AC}$  and  $\overleftrightarrow{BD}$ . Decide whether  $\overleftrightarrow{AC}$  is perpendicular to  $\overleftrightarrow{BD}$ .



The slopes of two lines are given. Are the lines perpendicular?

- 4.  $m_1 = 2, m_2 = \frac{1}{2}$
- 5.  $m_1 = -\frac{1}{2}, m_2 = 2$
- 6.  $m_1 = 4, m_2 = -\frac{1}{4}$
- 7.  $m_1 = -\frac{2}{3}, m_2 = \frac{3}{2}$
- 8.  $m_1 = \frac{3}{4}, m_2 = \frac{4}{3}$
- 9.  $m_1 = -1, m_2 = 1$

Lines  $a$  and  $b$  are perpendicular. The slope of line  $a$  is given. What is the slope of line  $b$ ?

- 10. 3
- 11.  $\frac{3}{4}$
- 12.  $-2$
- 13.  $-\frac{5}{2}$
- 14.  $-\frac{1}{2}$
- 15.  $\frac{2}{5}$
- 16. 1
- 17.  $-\frac{6}{7}$

Decide whether lines  $p_1$  and  $p_2$  are perpendicular.

- 18. line  $p_1: y = 3x + 5$
- 19. line  $p_1: 3x + 5y = 12$
- line  $p_2: y = \frac{1}{3}x + 5$
- line  $p_2: 5x + 3y = 18$
- 20. line  $p_1: 4x - 2y = 6$
- 21. line  $p_1: x + 8y = -4$
- line  $p_2: 2x + 4y = 6$
- line  $p_2: 4x - 2y = 10$

Line  $j$  is perpendicular to the line with the given equation and line  $j$  passes through  $P$ . Write an equation of line  $j$ .

- 22.  $y = \frac{1}{3}x + 4, P(0, 5)$
- 23.  $y = 3x + 4, P(0, -2)$
- 24.  $y = -\frac{4}{5}x + 4, P(1, 1)$
- 25.  $y = \frac{2}{3}x + 4, P(2, 0)$

Write an equation parallel to the given line. Write an equation perpendicular to the given line.

- 26.  $y = 2x - 4$
- 27.  $y = -x + 5$
- 28.  $y = \frac{1}{3}x - 2$