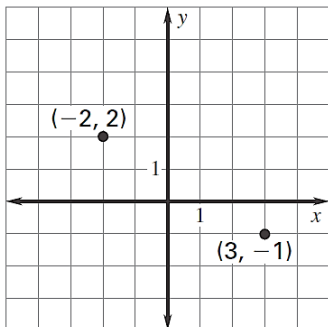


Parallel and Perpendicular Lines
Show all work!

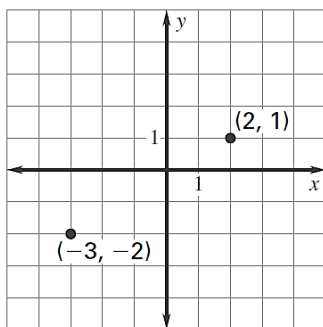
Name _____
 Date _____ Period _____

Calculate the slope of the line that passes through the labeled points on the graph.

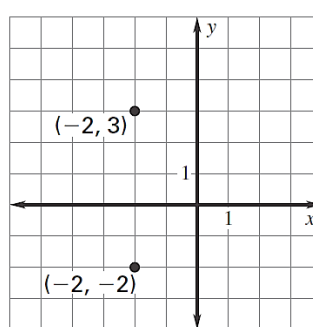
1.



2.

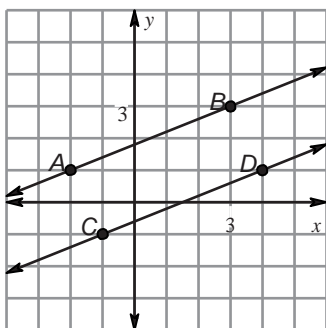


3.

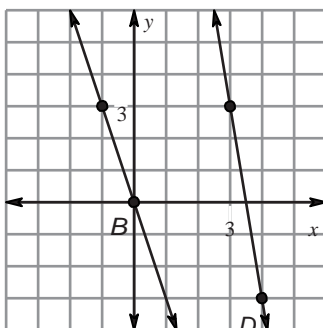


Find the slope of each line. Are the lines parallel?

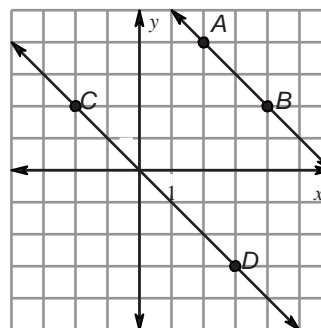
4.



5.



6.



Write an equation of the line.

7. slope = 2

y-intercept = -3

8. parallel to $y = -3x$

y-intercept = $\frac{1}{3}$

9. parallel to $y = \frac{1}{2}x - 3$

y-intercept = 6

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

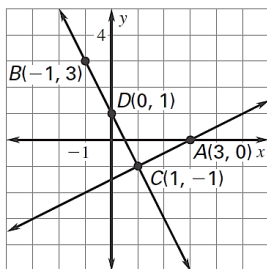
10. $P(0, 5)$, slope = 2

11. $P(5, 6)$, slope = $\frac{4}{5}$

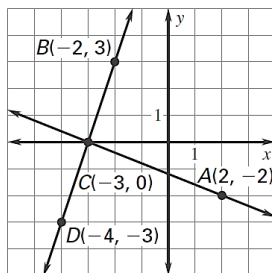
12. $P(-4, -2)$, slope = -1

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

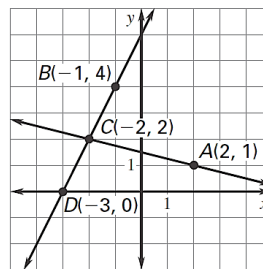
1.



2.



3.



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

4. $m_1 = 3, m_2 = \frac{1}{3}$

5. $m_1 = -\frac{4}{3}, m_2 = \frac{4}{3}$

6. $m_1 = -2, m_2 = \frac{1}{2}$

7. $m_1 = -\frac{2}{5}, m_2 = \frac{5}{2}$

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

9. $m_1 = 3, m_2 = -3$

Decide whether lines p_1 and p_2 are perpendicular. Put equation in slope intercept form if necessary.

10. line $p_1: y = 2x + 5$

11. line $p_1: 6x + 8y = 12$

line $p_2: y = \frac{1}{2}x + 5$

line $p_2: 6x - 8y = 18$

12. line $p_1: 9x - 7y = 6$

13. line $p_1: x + 2y = -4$

line $p_2: 7x + 9y = -5$

line $p_2: 6x - 3y = 8$

Determine if the intersection of \overleftrightarrow{AB} and \overleftrightarrow{CD} forms a right angle. Explain your reasoning.

14. $A(-9, 2), B(0, 1), C(-1, 8), D(-2, -1)$

15. $A(3, 6), B(-1, 4), C(4, 0), D(0, 8)$

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

16. $y = \frac{2}{7}x + 4, P(2, 3)$

17. $y = -4x + 7, P(4, 2)$

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

18. $y = -5x$

19. $y = \frac{1}{3}x - 1$

20. $2x - 4y = 3$