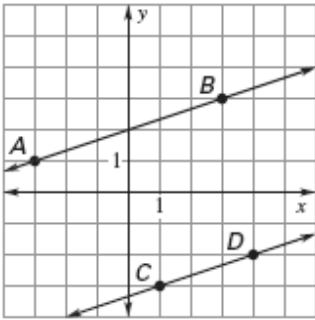


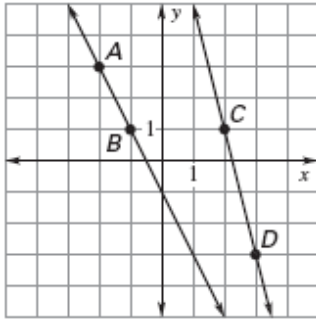
## Equations of Parallel and Perpendicular Lines

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

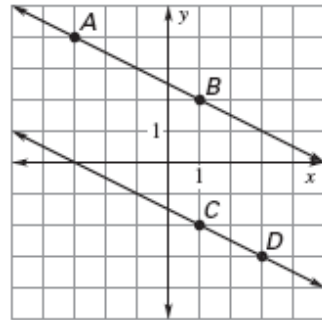
1.



2.

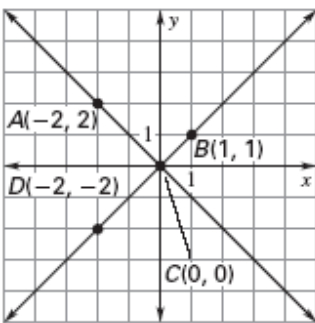


3.

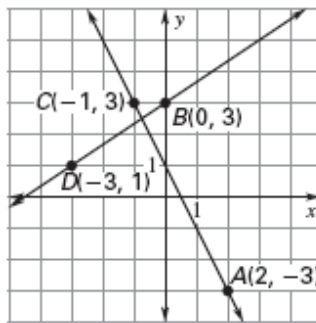


Find the slope of  $\overline{AC}$  and  $\overline{BD}$ . Decide whether  $\overline{AC}$  is perpendicular to  $\overline{BD}$ .

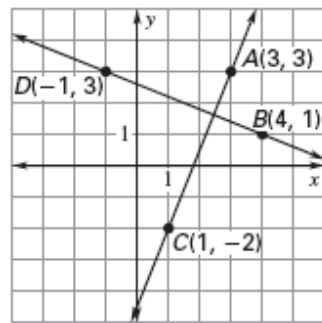
4.



5.



6.



Write the equation of the line.

6. slope =  $\frac{2}{5}$

y-intercept =  $-2$

7. parallel to  $y = 4x - 4$

y-intercept =  $-\frac{3}{5}$

8. perpendicular to  $-\frac{1}{3}x + 5$

y-intercept =  $0$

9. slope =  $-\frac{3}{2}$   
y-intercept = 5

10. perpendicular =  $\frac{1}{4}x + 2$   
y-intercept = -7

11. parallel to  $y = \frac{2}{5}x - 1$   
y-intercept = 9

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

12. line  $p_1$ :  $y = 3x + 5$

13. line  $p_1$ :  $7x + 2y = 5$

14. line  $p_1$ :  $9x = 4 + 7y$

line  $p_2$ :  $y = \frac{1}{3} + 5$

line  $p_1$ :  $2x - 7y = 5$

line  $p_1$ :  $7x + 9y = -5$

Decide whether the lines with the given equations are parallel, perpendicular, or neither

15.  $y = -5x - 2$   
 $y = 5x + 2$

16.  $y = \frac{1}{3}x - 1$   
 $y = -3x + 2$

17.  $2x - 4y = 3$   
 $4x - 8y = 7$

18.  $2x - 5y = 8$

19.  $y = \frac{5}{6}x + 8$

20.  $x - 2y = 12$

$5x - 2y = 2$

$y = -\frac{6}{5}x - 4$

$3x - 6y = 10$