

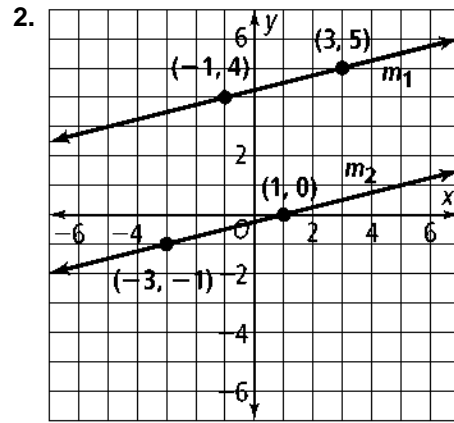
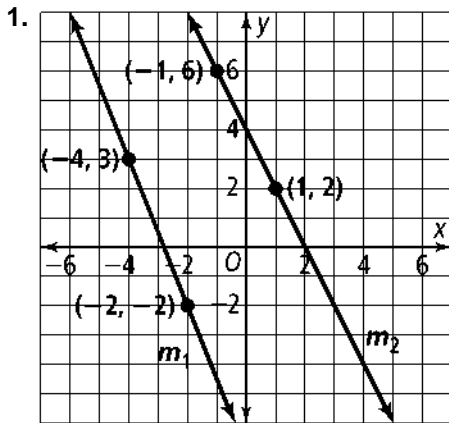
3-8

Practice

Form G

Slopes of Parallel and Perpendicular Lines

In Exercises 1 and 2, are lines m_1 and m_2 parallel? Explain.

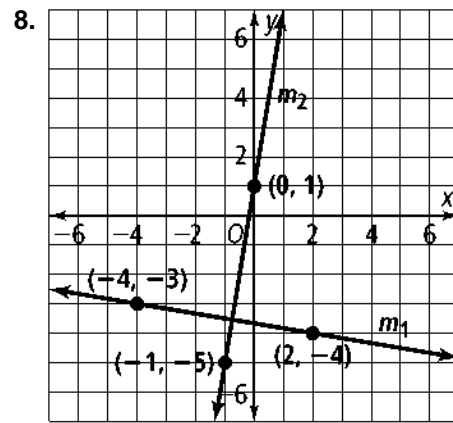
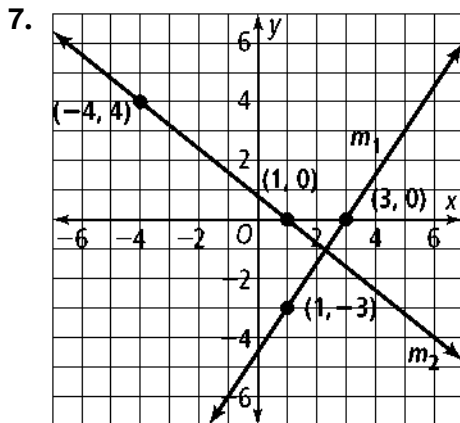


Write an equation of the line parallel to \overleftrightarrow{AB} that contains point C .

3. $\overleftrightarrow{AB}: y = -5x + 12; C(-2, 1)$

4. $\overleftrightarrow{AB}: y = \frac{4}{7}x + 7\frac{2}{7}; C(7, 1)$

In Exercises 7 and 8, are lines m_1 and m_2 perpendicular? Explain.



Write an equation of the line perpendicular to the given line that contains P .

9. $P(-6, 5); y = 2x - 3$

10. $P(4, 3); y = -3x - 15$

3-8

Practice (continued)

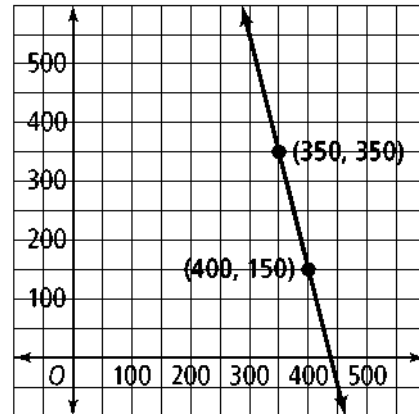
Form G

Slopes of Parallel and Perpendicular Lines

13. The line that represents the right boundary of a street is shown on the grid at the right.

a. What is the equation of the left boundary, which is parallel to the right boundary, and passes through point $L(200, 100)$?

b. Graph the left boundary.



Rewrite each equation in slope intercept form. Then determine whether the lines are parallel. Explain.

14. $2y = x + 15$
 $x = 2y + 5$

16. $2y = 15 + 4x$
 $6y - 30 = 12x$

Rewrite each equation in slope-intercept form. Then determine whether the lines are perpendicular. Explain.

17. $y - 1 = -x - 6$
 $y - 3 = -\frac{5}{6}(x - 5)$

19. $y - 6 = -\frac{5}{2}(x + 4)$
 $5y = 2x + 6$

20. A town's building code states that stairs and ramps must have a handrail. The sketch at the right has a scale of 7 in. to each grid space.

a. The handrail needs to be at least 35 in. above the ramp. Mark the point 35 in. above the top of the ramp. What are its coordinates?

b. What is the equation of the line for the handrail?

