

Vocabulary and Core Concept Check

- COMPLETE THE SENTENCE** Two distinct nonvertical lines that have the same slope are _____.
- VOCABULARY** Two lines are perpendicular. The slope of one line is $-\frac{5}{7}$. What is the slope of the other line? Justify your answer.

In Exercises 9–12, write an equation of the line that passes through the given point and is parallel to the given line. (See Example 2.)

9. $(-1, 3); y = 2x + 2$


In Exercises 13–18, determine which of the lines, if any, are parallel or perpendicular. Explain. (See Example 3.)

17. Line a : $4x - 3y = 2$
 Line b : $y = \frac{4}{3}x + 2$
 Line c : $4y + 3x = 4$


In Exercises 19–22, write an equation of the line that passes through the given point and is perpendicular to the given line. (See Example 4.)

19. $(7, 10); y = \frac{1}{2}x - 9$

25. **ERROR ANALYSIS** Describe and correct the error in writing an equation of the line that passes through $(1, 3)$ and is parallel to the line $y = \frac{1}{4}x + 2$.

 $y - y_1 = m(x - x_1)$
 $y - 3 = -4(x - 1)$
 $y - 3 = -4x + 4$
 $y = -4x + 7$

26. **ERROR ANALYSIS** Describe and correct the error in writing an equation of the line that passes through $(4, -5)$ and is perpendicular to the line $y = \frac{1}{3}x + 5$.

 $y - y_1 = m(x - x_1)$
 $y - (-5) = 3(x - 4)$
 $y + 5 = 3x - 12$
 $y = 3x - 17$