

# Practice

Fill in the blank or write the answer to the question.

1. A line that is parallel to  $y = \frac{3}{4}x - 9$  has slope  $m =$  \_\_\_\_\_.
2. A line that is perpendicular to  $3y = 11 - 8x$  has slope  $m =$  \_\_\_\_\_.
3. A line that is parallel to  $y = 12$  has slope  $m =$  \_\_\_\_\_.
4. Are the lines  $2y - x = 6$  and  $6x - 3y - 33 = 0$  parallel, perpendicular, or neither?

**REMEMBER** The slopes of perpendicular lines are opposite reciprocals.

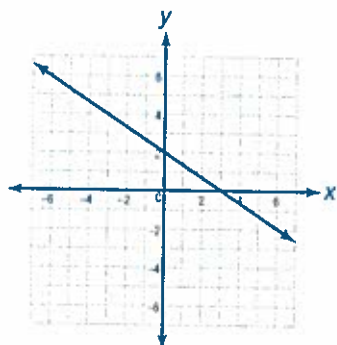
**HINT**



Write the equation of a line in slope-intercept form to find its slope.

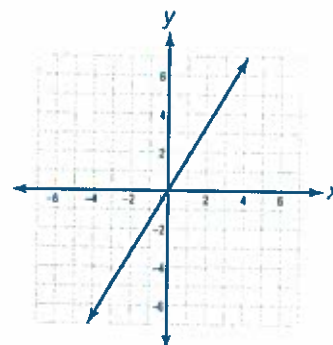
Choose the best answer.

5. Which equation represents a line that is perpendicular to the line shown below?



- A.  $y = \frac{2}{3}x + 5$
- B.  $y = \frac{3}{2}x - 4$
- C.  $y = -\frac{2}{3}x - 6$
- D.  $y = -\frac{3}{2}x + 1$

6. Which equation represents a line that is parallel to the line shown below?



- A.  $y = \frac{3}{5}x + 1$
- B.  $y = -\frac{3}{5}x + 1$
- C.  $y = \frac{5}{3}x - 1$
- D.  $y = -\frac{5}{3}x - 1$

7. Which describes the lines  $y = \frac{7}{8}x + 12$  and  $y = -\frac{8}{7}x + 7$ ?

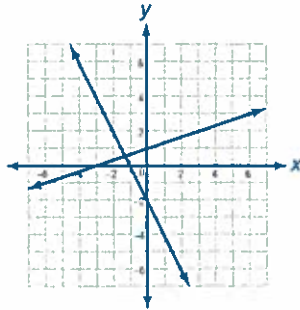
- A. parallel
- B. perpendicular
- C. neither parallel nor perpendicular

8. Which describes the lines  $x - 2y = -6$  and  $4y + 4 = 2x$ ?

- A. parallel
- B. perpendicular
- C. neither parallel nor perpendicular

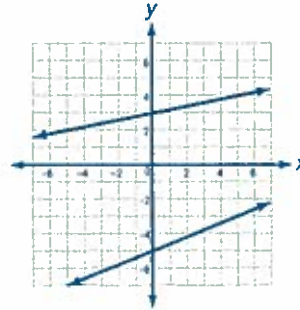
**Choose the best answer.**

9. Which describes the lines shown below?



- A. parallel
- B. perpendicular
- C. neither parallel nor perpendicular

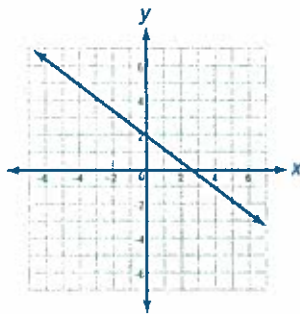
10. Which describes the lines shown below?



- A. parallel
- B. perpendicular
- C. neither parallel nor perpendicular

**Write the equation of the line that is described. Give your answer in slope-intercept form.**

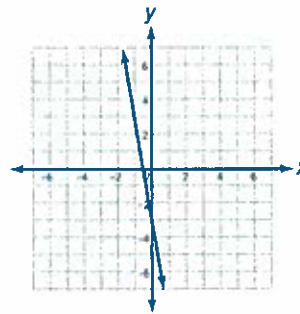
11.



A line that is parallel to the one shown above and that passes through the point  $(8, -7)$ .

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12.



A line that is perpendicular to the one shown above and that passes through the point  $(12, 3)$ .

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13. A line that is parallel to  $3y = x + 12$  and that passes through the point  $(6, -8)$ .

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14. A line that is perpendicular to  $y - x = 7$  and that passes through the point  $(-2, -2)$ .

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**Solve.**

15. **EXPLAIN** Lines  $s$ ,  $t$ , and  $u$  all lie on the same plane. Line  $s$  is parallel to line  $t$ . Line  $t$  is perpendicular to line  $u$ . What is the relationship between lines  $s$  and  $u$ ? How do you know?

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