Parallel and Perpendicular Lines

Name_____ Date_____

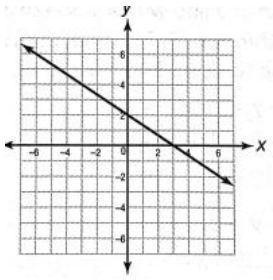
Fill in the blank or write the answer to the question.

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? _____

Choose the best answer.

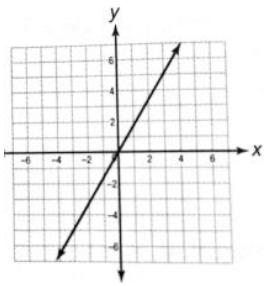
5. Which equation represents a line that is perpendicular to the line shown below?

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 = $-\frac{8}{7}x + 7$?

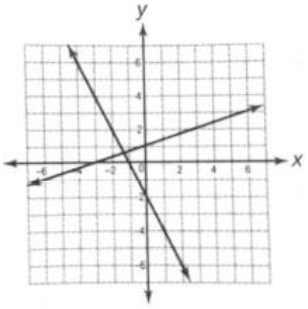
A. Parallel
B. Perpendicular
C. Neither

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

A. Parallel
B. Perpendicular
C. Neither

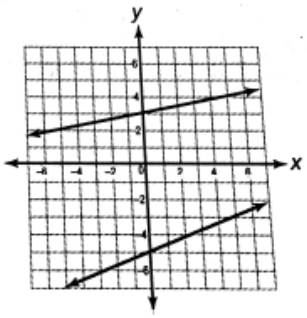
9. Which describes the lines shown below?

A. Parallel
B. Perpendicular
C. Neither



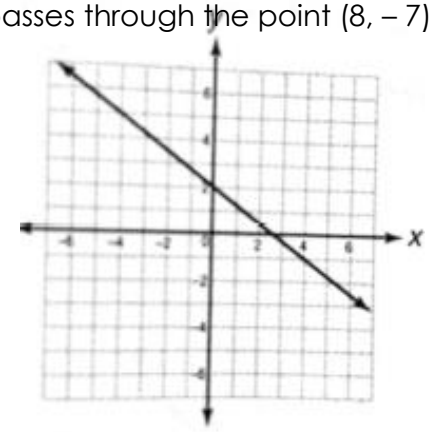
10. Which describes the lines shown below?

A. Parallel
B. Perpendicular
C. Neither



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 below that passes through the point (8, – 7).



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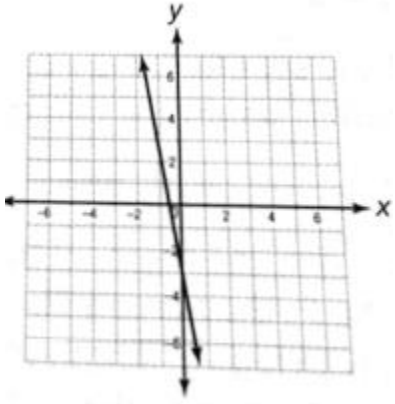
12. A line that is perpendicular to the one shown below that passes through the point (12,3).



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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 passes through the point (–2, – 2).

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15. 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?