

Selected Answers

Name: _____

Period: _____

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HW 5-4 HONORS: Parallel & Perpendicular Lines

Determine whether the graphs of each pair of equations are *parallel*, *perpendicular*, or *neither*. Explain.

1. $y = 2x + 4$

$y = 2x - 10$

parallel

the slopes are the same value

2. $y = 5x - 8$

$y = 3x - 8$

3. $y = 7x + 3$

$y = \frac{1}{7}x - 6$

neither

the slopes aren't the same & they aren't opp. reciprocals

4. $y = 4x + 3$

$4x + y = 3$

5.

$y = -2x$

$2x + y = 3$

parallel

the slopes are the same value

6.

$5x - 3y = -6$

$3x + 5y = 10$

7.

$-3x + 4y = 8$

$-4x + 3y = -6$

neither

the slopes aren't the same & they aren't opp. reciprocals

8.

$2x + 5y = 15$

$3x + 5y = 15$

Write an equation in slope-intercept form for each line described.

9. Passes through $(-7, -4)$, perpendicular to $y = \frac{1}{2}x + 9$

$y = -2x - 18$

10. Passes through $K(3, 7)$, parallel to \overline{LM} with $L(-1, -2)$ and $M(-4, 8)$.

11. Passes through $(6, 2)$, parallel to $y = -\frac{2}{3}x + 1$

$y = -\frac{2}{3}x + 8$

12. Passes through $(-2, 2)$, perpendicular to $y = -5x - 8$

Write an equation in slope-intercept form for each line described.

13. Passes through (4, 2) that is parallel to the line $y = 3x + 23$

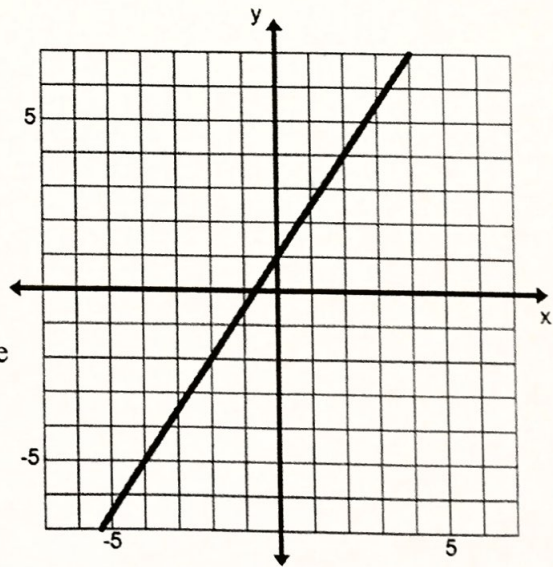
$$y = 3x - 10$$

14. Write an equation of the line that is parallel to the graph of $y = 7x - 3$ and passes through the origin.

15. Contains the point (21, 12) that is parallel to the line containing the points (30, 8) and (-15, -7).

$$y = \frac{1}{3}x + 5$$

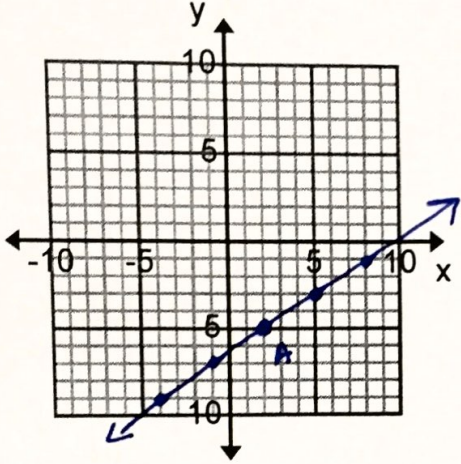
16. a) On the graph to the right, draw a line perpendicular to the line shown. Be sure to label which points you used.



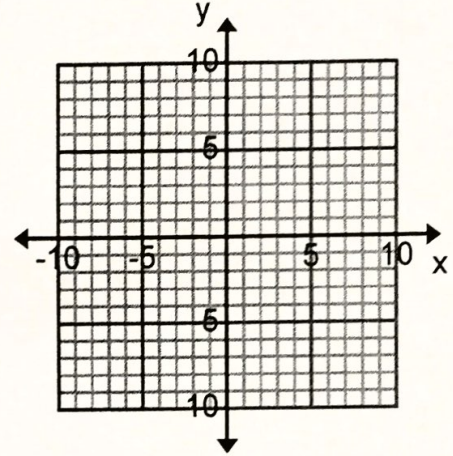
b) On the graph to the right, draw a line parallel to the line shown. Be sure to label which points you used.

Graph the line that satisfies each condition.

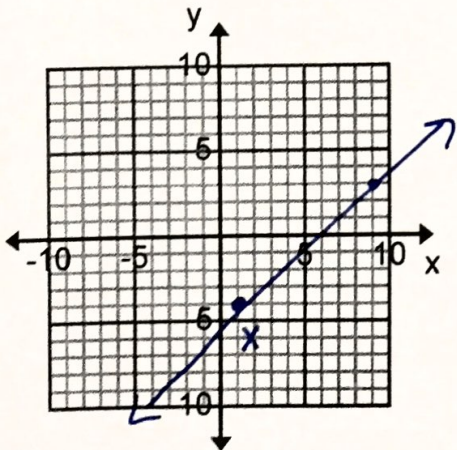
17. Passes through $A(2, -5)$, parallel to \overline{BC} with $B(1, 3)$ and $C(4, 5)$



18. Passes through $(-1, -10)$, parallel to $y = 7$.



19. Passes through $X(1, -4)$, parallel to \overline{YZ} with $Y(5, 2)$ and $Z(-3, -5)$



20. Passes through $D(-5, -6)$, perpendicular to \overline{FG} with $F(-2, -9)$ and $G(1, -5)$

