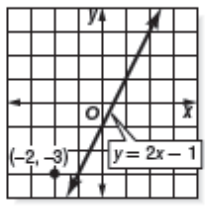
NAME _____ DATE _____ PERIOD _____

4-4 Skills Practice

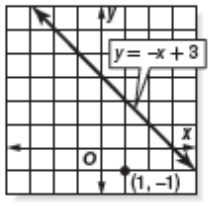
Parallel and Perpendicular Lines

Write an equation in slope-intercept form for the line that passes through the given point and is parallel to the graph of each equation.

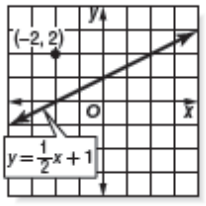
1.



2.



3.



4. $(3, 2), y = 3x + 4$

5. $(-1, -2), y = -3x + 5$

6. $(-1, 1), y = x - 4$

7. $(1, -3), y = -4x - 1$

8. $(-4, 2), y = x + 3$

9. $(-4, 3), y = \frac{1}{2}x - 6$

10. RADAR On a radar screen, a plane located at $A(-2, 4)$ is flying toward $B(4, 3)$. Another plane, located at $C(-3, 1)$, is flying toward $D(3, 0)$. Are the planes' paths perpendicular? Explain.

Determine whether the graphs of the following equations are *parallel* or *perpendicular*. Explain.

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

12. $y = 4x, x + 4y = 12, 4x + y = 1$

Write an equation in slope-intercept form for the line that passes through the given point and is perpendicular to the graph of each equation.

13. $(-3, -2), y = x + 2$

14. $(4, -1), y = 2x - 4$

15. $(-1, -6), x + 3y = 6$

16. $(-4, 5), y = -4x - 1$

17. $(-2, 3), y = \frac{1}{4}x - 4$

18. $(0, 0), y = \frac{1}{2}x - 1$

NAME _____ DATE _____ PERIOD _____

4-4 Practice

Parallel and Perpendicular Lines

Write an equation in slope-intercept form for the line that passes through the given point and is parallel to the graph of each equation.

1. $(3, 2)$, $y = x + 5$

2. $(-2, 5)$, $y = -4x + 2$

3. $(4, -6)$, $y = -\frac{3}{4}x + 1$

4. $(5, 4)$, $y = \frac{2}{5}x - 2$

5. $(12, 3)$, $y = \frac{4}{3}x + 5$

6. $(3, 1)$, $2x + y = 5$

7. $(-3, 4)$, $3y = 2x - 3$

8. $(-1, -2)$, $3x - y = 5$

9. $(-8, 2)$, $5x - 4y = 1$

10. $(-1, -4)$, $9x + 3y = 8$

11. $(-5, 6)$, $4x + 3y = 1$

12. $(3, 1)$, $2x + 5y = 7$

Write an equation in slope-intercept form for the line that passes through the given point and is perpendicular to the graph of each equation.

13. $(-2, -2)$, $y = -\frac{1}{3}x + 9$

14. $(-6, 5)$, $x - y = 5$

15. $(-4, -3)$, $4x + y = 7$

16. $(0, 1)$, $x + 5y = 15$

17. $(2, 4)$, $x - 6y = 2$

18. $(-1, -7)$, $3x + 12y = -6$

19. $(-4, 1)$, $4x + 7y = 6$

20. $(10, 5)$, $5x + 4y = 8$

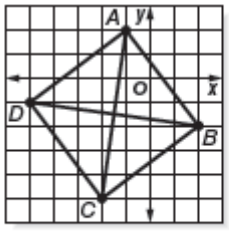
21. $(4, -5)$, $2x - 5y = -10$

22. $(1, 1)$, $3x + 2y = -7$

23. $(-6, -5)$, $4x + 3y = -6$

24. $(-3, 5)$, $5x - 6y = 9$

25. GEOMETRY Quadrilateral $ABCD$ has diagonals $\overline{AC}$ and $\overline{BD}$. Determine whether $\overline{AC}$ is perpendicular to $\overline{BD}$. Explain.



26. GEOMETRY Triangle ABC has vertices $A(0, 4)$, $B(1, 2)$, and $C(4, 6)$. Determine whether triangle ABC is a right triangle. Explain.