Section 5.6 – Some Special Cases

Problem Set 3

Determine if the following lines are vertical, horizontal or neither.

1. $5 + x = 4$
2. $y = 6$
3. $3y = 2x - 3$
4. $2x + 3y = 6$
5. $2x + 5 = 8$
6. $-4x = 8$
7. $2y + \frac{6}{7} = 1$
8. $-15 = y$
9. $4x + 3y = 4x - 1$

Find the equations of the lines through the following pairs of points.

10. (5, 1) and (5, -3)
11. (4.8, -2) and (4.8, -3)
12. (2, 2.4) and (2, -5)
13. $\left(\frac{5}{3}, -2\right)$ and $\left(\frac{5}{3}, 1\right)$
14. (0, 3) and (0, -8)
15. (-5, -2) and (4, -2)

Classify the following pairs of lines as parallel, perpendicular or neither.

16. $y = 3x + 2$ and $y = 3x - 6$
17. $-2x + 4y = -5$ and $x = 6$
18. $y = 3x - 4$ and $y = 5x + 1$
19. $x = -4$ and $y = -4$
20. $5y - 2x = 1$ and $2y = -5x - 4$
21. $y - 4x = 2$ and $y = 4x - 1$
22. $y = -5x + 2$ and $-5y + x = 2$
23. $-4x + y = 2$ and $8x - 2y = 5$
24. $5x + 5y = 1$ and $4x - 4y = 7$
25. $3x + y = 2$ and $x + 4y = 1$
26. $3x + y = -2$ and $-2x + 6y = 11$
27. $y = 2x - 1$ and $y = -\frac{1}{2}x - 2$

Find the line parallel to the given line that passes through the given point.

28. $y = 4x + 3$ and (4, 5)
29. $2y + 5x = 5$ and (0, 0)
30. $y = 3.1x - 2$ and (2.2, 1)
31. $y = 6$ and (-4, 1)
32. $3y + x = 2$ and (2, 5)
33. $4y + 5x = 2$ and (1, -2)

Find the line perpendicular to the given line that passes through the given point.

34. $y = -3x + 4$ and (4, 0)
35. $y = -0.1x + 4.8$ and (-5.1, 2)
36. $4y + x = 2$ and (1, 2)
37. $-4y + 2x = 8$ and (2, 3)
38. $2y - 3x = 4$ and (2, 1)
39. $y = 4$ and (2, 4)

