Section 5.7 – Chapter Summary

Problem Set 3

Find the slope of the line through the following points and determine if the line is increasing or decreasing.

1. (5, 2) and (4, 3)
2. (-2, -3) and (5, 6)
3. (-2, -1) and (-2, 4.3)
4. (6, 6) and (4, 6)
5. (-2, 1) and (1, 3)
6. (8, 1) and (-4, 2)

Determine if the following equations are linear or non-linear.

7. $y = 3x - 3$
8. $2x + 3y - 3 = 0$
9. $3x + y^3 = 0$
10. $y = \frac{1}{x}$
11. $2y = 3x + 1$
12. $y = -2x$

Find the coordinates of two points on the following lines.

13. $y = 6x - 4$
14. $-2x + y = 4$
14. $3x - 2y - 3 = 0$

Find the *x*- and *y*-intercepts of the following lines.

16. $2x + 4y = 3$
17. $x - 2y = 10$
18. $y = 4x - 7$

Graph the following equations using the method of your choice.

19. $3y + \frac{1}{3}x = -2$
20. $y = 3x - 1$
21. $y = 2.2x - 4.2$
22. $3x - 4y = 1$
23. $y = -2x + 3$
24. $2x + 2y = 5$

Find the equation of the lines through the following points.

25. (3, 3) and (3, 0)
26. (2, -3) and (1, 3)
27. (4, 1) and (-2, 2)
28. (1, 2) and (2.7, 1.1)
29. (4, 1) and (2, 3)
30. $\left(\frac{2}{3}, \frac{1}{4}\right)$ and (-2, 2)
31. $\left(\frac{2}{3}, \frac{1}{4}\right)$ and $\left(\frac{2}{3}, -\frac{1}{4}\right)$
32. (1, 1) and (-3, 2)
33. (4, 1) and (-1, 11)

Determine if the following pairs of lines are parallel, perpendicular or neither.

34. $y = 2x + 1$ and $y = -2x + 2$
35. $2x + 2y = 3$ and $y = x + 3$
36. $3x + y = 0$ and $3x + y = 7$
37. $x = 1$ and $y = 1$
38. $y + 3x = 1$ and $-3y + x = 3$
39. $x + 2y = 1$ and $-2x + y = 1$
40. $6x + 3y = 2$ and $-3y = 1 + 6x$
41. $x + 2 = 2y$ and $2y = -x + 3$
42. $4x + 1 = 6y$ and $x + 2 = 3y$

Find the equations of the lines parallel to the following lines that pass through the given points.

43. $y = 4x + 1$ through (2, 4)

44. $x + 2y = 0$ through (1, 2)

45. $3y + 4x = 1$ through (4, 2)

Find the equations of the lines that are perpendicular to the following lines that pass through the given points.

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

47. $4x - 6y = 1$ through (3, 1)

48. $y = -\frac{4}{5}x + 2$ through (1, 3)

