

Section 5.7 – Chapter Summary

Problem Set 2

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

1. (2, 3) and (3, 3)
2. (-3, -2) and (-5, 4)
3. (3.5, -3) and (2, 4.1)
4. (2, 1) and (-3, 6)
5. (4, 3) and (10, 10)
6. (6, 4) and (-4, -3)

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

7. $y = 4x - 2$
8. $y = \sqrt{x}$
9. $y/x = -2$
10. $3x + 2y - 2 = 0$
11. $3y = x + 4$
12. $3x + y^3 = 2$

Find the coordinates of two points on the following lines.

13. $y = 4x - 3$
14. $-x + 2y = 3$
14. $2x - 3y - 2 = 1$

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

16. $4x + 3y = 1$
17. $-5x - 3y = 12$
18. $y = 3x - 4$

Graph the following equations using the method of your choice.

19. $2y + \frac{1}{3}x = 1$
20. $y = 2x - 2$
21. $y = 3.2x - 2.1$
22. $2x - 5y = 3$
23. $y = -3x + 1$
24. $4x + 3y = 6$

Find the equation of the lines through the following points.

25. (5, 3) and (4, 1)
26. (4, -4) and (0, 3)
27. (-3, 2) and (4, 1)
28. (1, 2.2) and (3.7, -1.1)
29. (5, 3) and (3, -5)
30. $\left(\frac{2}{5}, -\frac{1}{10}\right)$ and (-1, 3)
31. $\left(\frac{1}{3}, -\frac{1}{3}\right)$ and $\left(\frac{1}{4}, \frac{3}{4}\right)$
32. (2, 1) and (-2, 1)
33. (1, -3) and (2, 4)

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

34. $y = 3x + 2$ and $y = 3x - 2$
35. $x + y = 3$ and $3y = -3x + 4$
36. $x + y = 0$ and $x + y = 7$
37. $x = 3$ and $x = 4$
38. $2y + 5x = 2$ and $2y - 4x = 7$
39. $3x + 4y = y$ and $4x + 3y = 4$
40. $4x + 2y = -3$ and $4y = 5 + 2x$
41. $2x + 3 = y$ and $y = -2x + 1$
42. $2x + 1 = 4y$ and $5x + 1 = 4y$

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

43. $y = 3x + 5$ through $(3, 5)$

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

45. $2y + 3x = 4$ through $(5, -2)$

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

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

47. $4x - 3y = 2$ through $(-3, 2)$

48. $y = -\frac{4}{5}x + 6$ through $(4, 3)$