Section 5.2 – The Equation of a Line

Problem Set 2

Identify the following equations as linear or non-linear.

1. $5y = 4x - 2$
2. $-2(x + 1) = x + 2y + 2$
3. $3x = y^3 + 2$
4. $-(x + 1) + y = 4y + 1$
5. $3x + 3 = 3y - 3$
6. $x = y$
7. $-2 / x = x$
8. $0 = 2 + \frac{y}{4} + x$

Determine whether or not the following points are on the given line.

9. (3, 1) on $y = 3x - 8$
10. (-2, 0) on $y = 2x + 4$
11. $\left(\frac{1}{3}, \frac{2}{5}\right)$ on $x - y = \frac{1}{15}$
12. $\left(\frac{1}{8}, \frac{2}{3}\right)$ on $2y = 4x + 1$
13. (-3, 1) on $y = \frac{1}{3}x + 1$
14. (2, -4) on $-x + y = -6$
15. (0, 0) on $y = 4x$
16. (.5, 2.5) on $y = 3x + 1$

Find the coordinates of two points on each of the following lines.

17. $y = 3x + 1$
18. $3y = 2x + 2$
19. $y = 4x + 1.5$
20. $y = 4x - 2$
21. $x + 2y = 2$
22. $-\frac{2}{3}y = x + \frac{2}{5}$
23. $-2x + y = 3$
24. $y - \frac{x}{2} = \frac{1}{4}$

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

25. $y = 4x - 2$
26. $y = -2x + 2$
27. $y = -x + \frac{3}{2}$
28. $3y - 3x = 1$
29. $y = 1.5x - 3.8$
30. $4x - 5y = 10$
31. $\frac{y}{5} - \frac{x}{3} = 4$
32. $2x + 4y = 3$