

Section 5.2 – The Equation of a Line

Problem Set 3

Identify the following equations as linear or non-linear.

1. $y = 4x - 3$

2. $4x + 1 = 3y$

3. $x^2 - y^2 = 1$

4. $-4(x + 1) = 2y + 1$

5. $x + 4 = 2y - 3$

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

7. $\frac{y}{4} + \frac{x}{3} = 3$

8. $-4 / y = x$

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

9. $(0, -2)$ on $y = 4x - 2$

10. $(4, -10)$ on $y = -3x + 2$

11. $(-2, 4)$ on $\frac{x}{3} + y = 1$

12. $\left(-2, \frac{1}{2}\right)$ on $2y = x + 3$

13. $(4, -2)$ on $y = \frac{2}{3}x + \frac{1}{3}$

14. $\left(1, \frac{3}{2}\right)$ on $-3x + 2y = -6$

15. $(-2, 1)$ on $y = 1 + 3x$

16. $(3, -10)$ on $y = -2x - 4$

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

17. $y = 4x + 2$

18. $2y = -3x$

19. $y = 5x + 3$

20. $y = 4.1x - 2.8$

21. $x + y = 3$

22. $-\frac{4}{5}y = 3x + \frac{2}{5}$

23. $\frac{y}{3} - \frac{4}{3} = x$

24. $-x + 3y = 1$

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

25. $y = 3x - 4$

26. $y = 3x - 5$

27. $y = -\frac{x}{6} + \frac{4}{5}$

28. $2y + 5x = -1$

29. $y = .5x - 2.8$

30. $3x - 6y = 4$

31. $x + y = -2$

32. $\frac{y}{5} + \frac{x}{5} = 1$