Kerry Ojakian's MTH 28.5 Class
Class Assignment #12

For each equation determine whether it is linear or non-linear?

1. $3x - 2y + x = 7 + y$
2. $3x^4 + 2y^4 = 8$
3. $3 + x = -x + 2(7 - y)$
4. $3x + x = -2y + 7$
5. $3x + y^2 = 1$
6. $3(x - y) - 1 = 2y + x$
7. $2(x + x^2) = y + 1$

For each equation, state which of the following it is: A) a horizontal line, or B) a vertical line, or C) a slanted line.

1. $x = 0$
2. $y = \dfrac{3}{47}$
3. $x + 7y = 0$
4. $x + 7 = 0$
5. $3x + 7y = 0$

Find the intercepts of the lines.

8. $2x + 3y = 6$
9. $-4x + y = 4$
10. $x + 4y = 0$
11. $y = 6$
12. $x = 4$
13. $y = 2x + 5$
14. $y = 6x - 2$
15. $y = 4x + 10$
16. $y = -x + 5/3$

Put each line into "Slope-Intercept Form"

17. $y = 3x - 2$
18. $x = y - 2$
19. $5x - y = 20$
20. $2y = 4x - 6$
21. $3y = 4x - 6$
22. $4y + 6x - 10 = 0$

Find the slope and the y intercept of the lines.

23. $y = 3x - 2$
24. $y = \frac{3}{5}x + 23$
25. $y = -\frac{7}{3}x - 9$
26. $3x + y = 4$
27. $3x - 5y = 4$
28. $y = 2$
29. $x = 4$
30. $4x - y = 4$
31. $x - 3y = -3$
32. $x + y = 4$
33. $y = 2x - 1$
34. $y = 4$
35. $x = -1$
36. $3x - 7y = -1$

In each problem you are given some points on the line. Find the slope of the line.

37. $(1, 2)$ and $(3, 6)$
38. $(0, 5)$ and $(2, 1)$
39. $(15, 17)$ and $(21, 5)$ and $(16, 15)$
40. $(-2, 3)$ and $(2, -9)$ and $(1, -6)$

Graph the set of solutions of each of the following equations (on separate graph paper).

41. $y = 3$
42. $x = 3$
43. $y = -2$
44. $x = -2$
45. $y = 0$
46. $x = 0$

Graph each equation on separate graph paper.

47. $y = 3x + 1$
48. $y = 2x - 1$
49. $y = \frac{1}{2}x + 2$
50. $y = -\frac{3}{2}x$
51. $y = 4$
52. $y = 4x$
53. $x = y + 3$
54. $x = 1$
55. $y = -1$
56. $2x = 4y - 8$
57. $3x + 4y = 4$