A graphic experience

If all the equations below are graphed on the same set of coordinates, the result is a picture. Students enjoy the exercise, and it is especially easy to check the accuracy of the work.

1. $(x + 3)^2 + (y - 3)^2 = 1$
2. $(x + 3)^2 + (y - 3)^2 = 0$
3. $y = 0$ for $\frac{2}{3}\sqrt{5} \le |x| \le 9$ or $|x| \ge 13$
4. $(x - 3)^2 + (y - 3)^2 = 1$
5. $(x - 3)^2 + (y - 3)^2 = 0$
6. $(x + 11)^2 + y^2 = 4 \quad (y \ge 0)$
7. $(x + 12)^2 + y^2 = 1 \quad (y \le 0)$
8. $(x + 10)^2 + y^2 = 1 \quad (y \le 0)$
9. $(x - 10)^2 + y^2 = 1 \quad (y \le 0)$
10. $(x - 12)^2 + y^2 = 1 \quad (y \le 0)$
11. $(x - 11)^2 + y^2 = 4 \quad (y \ge 0)$
12. $x^2 + y^2 = 49 \qquad (y \ge 0)$
13. $9x^2 + 4(y + 2)^2 = 36 \ (y \le 0)$

A collection of such graphing exercises would be useful and enjoyable, and the writer would be most interested in hearing of others that anyone might discover or devise.

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Book Reviews

Math Book 2 is the second to be published in a series of mathematics books for the junior and senior high school years. *Math Book 2* is one of the most attractively arranged and presented books which I have seen. The authors make excellent use of diagrams and pictures which are contemporary in order to get and maintain the interest of the students. Extensive use of colors adds considerably to the appeal and attractiveness of the book. The size of print makes for easy reading. References made in the book are to things of interest to students this age. I don't expect students would be bored with an arrangement and format of this nature.