Lesson 4.3

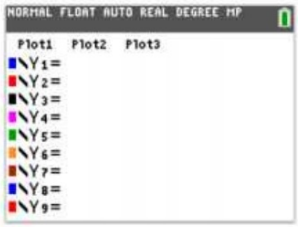
Concept Understanding

You have learned to graph function rules by making a table of values. You can also use a graphing calculator to graph function rules.

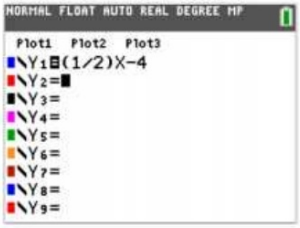
Example #1 Graph $y=\frac{1}{2}x-4$ using a graphing calculator.

Step 1. Press the

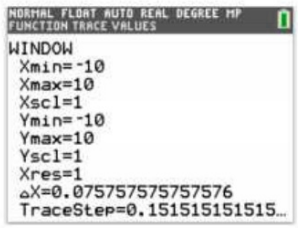
STAT PLOT F1



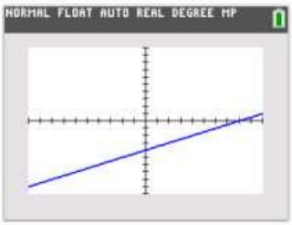
Step 2. To the right of Y_1



Step 3 Press the TBLSET F2 WINDOW key that lets you look at only part of the graph. A good window for this function rule is the standard viewing window, $-10 \le x \le 10$ and $-10 \le y \le 10$.



Step 4 Press the TABLE F5 GRAPH key. The graph of the function rule is shown.

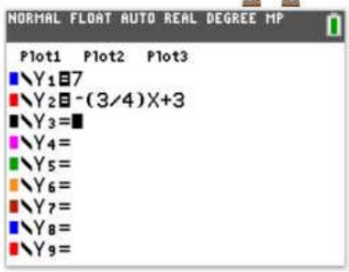


Example #2 Solve $7 = -\frac{3}{4}k + 3$

Follow each direction closely

Step 1. Press the STAT PLOT F1 Y= key

Clear any equations.
Then enter each side of the given equation.
For $\mathbf{Y_1}$, enter
u O 7, then ENTRY SOLVE ENTER



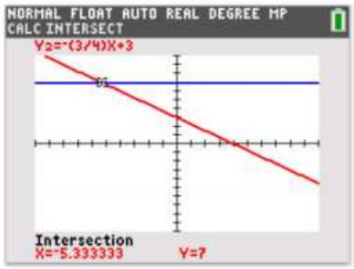
For $\mathbf{Y_2}$, enter $-\frac{3}{4}k + 3$
ANS ? (-) { K (L3 θ 3 e M ÷ L4 T 4 } L) LINK X,T,θ,n MEM " + L3 θ 3 ENTRY SOLVE ENTER

Step 2 Graph the function rules. Use a standard graphing window by pressing FORMAT F3 ZOOM, then **6: ZStandard**. This gives a window defined by $-10 \le x \le 10$ and $-10 \le y \le 10$.

Step 3 Use the CALC feature. Press 2ND CALC F4 TRACE Select **5: intersect** and press ENTRY SOLVE ENTER 3 times.

The calculator's value for the x-coordinate of the point of intersection is -5.333333.

The solution of $7 = -\frac{3}{4}k + 3$, is $-5\frac{1}{3}$



Practice and Problem Solving Exercises

Graph each function rule using a graphing calculator.

1. $y = 6x + 3$

2. $y = -3x + 8$

3. $y = 0.2x - 7$

4. $y = -1.8x - 6$

5. $y = -\frac{1}{3}x + 5$

6. $y = \frac{8}{3}x - 5$

7. Open-Ended Graph $y = -0.4x + 8$. Using the window screen, experiment with values for Xmin, Xmax, Ymin, and Ymax until you can see the graph crossing both axes. What values did you use for Xmin, Xmax, Ymin, and Ymax?

8. Reasoning How can you graph the equation $2x + 3y = 6$ on a graphing calculator?

$$2x + 3y = 6$$
$$-2x \qquad -2x$$
$$\frac{3y}{3} = \frac{-2x}{3} + \frac{6}{3}$$
$$y = -\frac{2}{3}x + 2$$

Use a graphing calculator to solve each equation.

9. $8a - 12 = 6$

10. $-4 = -3t + 2$

11. $-5 = -0.5x - 2$

12. $4 + \frac{3}{2}n = -7$

13. $\frac{5}{4}d - \frac{1}{2} = 6$

14. $-3y - 1 = 3.5$