

Solving Systems by Graphing in MyMathLab (Section 8.1)
Andrea Hendricks

To solve by graphing, you will have to do some work by hand first. By hand, you need to find two ordered pairs that are solutions to each of the given equations. Then you will plot these ordered pairs in MyMathLab for the line to be drawn. The only problem is that in MML you will only be able to plot ordered pairs that have integer components and values between -10 and 10 . Two examples are illustrated below.

Problem 3, Section 8.1

Homework Homework 8.1

Exercises 1 2 3 4 5 6 7 8 9 10

Solve the system of equations by graphing.

$$x + y = 6$$
$$x - y = -2$$

Use the graphing tool on the right to graph the two lines.

Click to enlarge graph

To pop up your graph, click the Click to enlarge graph button.

Check Answer Clear Answers Problem Progress Print Homework Submit Homework

Solution:

Step One: Find two points on each line. Since both equations are in standard form, find the x and y -intercepts.

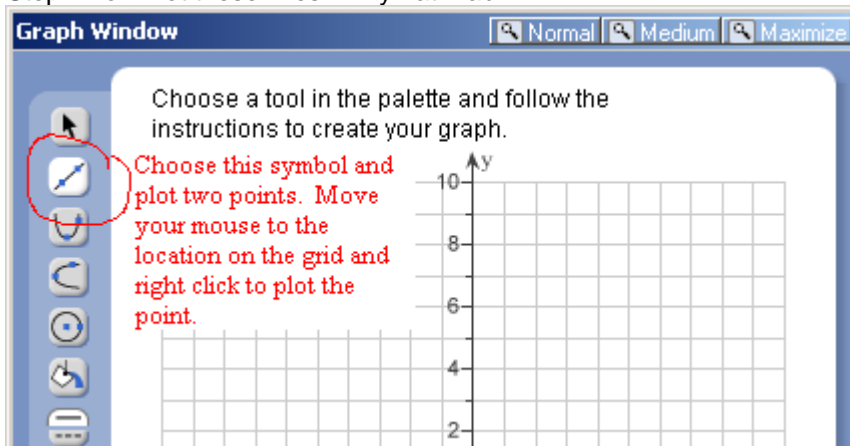
$$x + y = 6$$

x-int: ($y = 0$)	y-int: ($x = 0$)
$x + 0 = 6$ $x = 6$ $(6, 0)$	$0 + y = 6$ $y = 6$ $(0, 6)$

$$x - y = -2$$

x-int: ($y = 0$)	y-int: ($x = 0$)
$x - 0 = -2$ $x = -2$ $(-2, 0)$	$0 - y = -2$ $-y = -2$ $y = 2$ $(0, 2)$

Step Two: Plot these lines in MyMathLab:



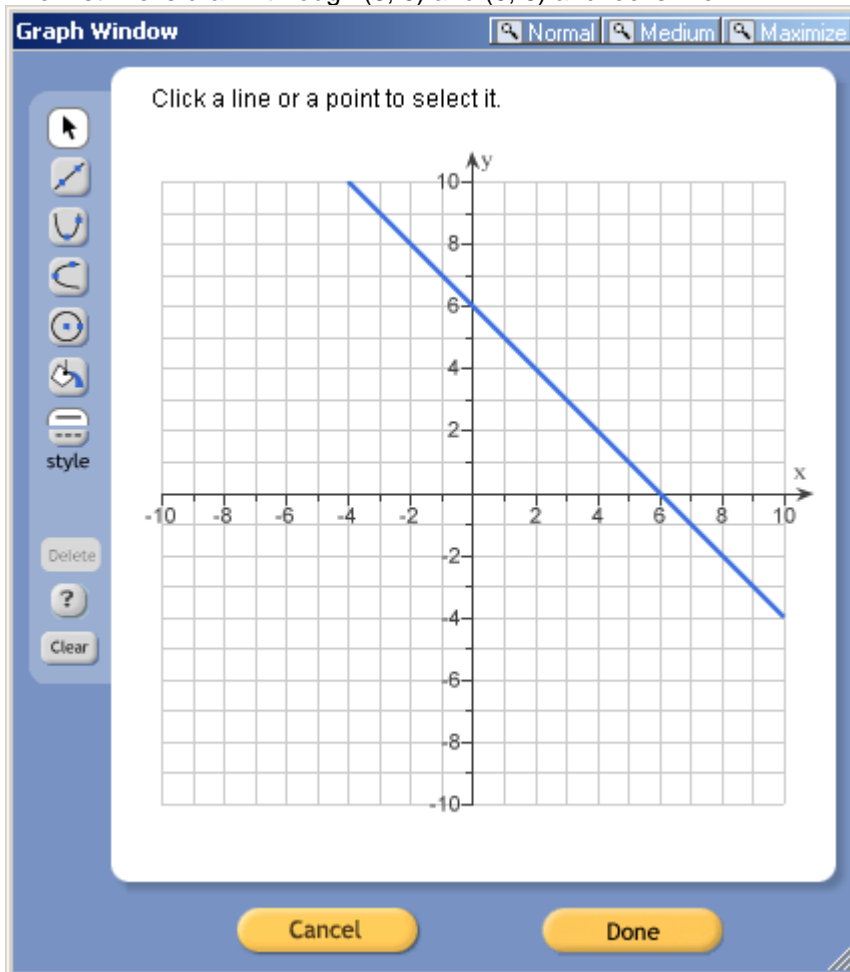
Graph Window [Normal] [Medium] [Maximize]

Choose a tool in the palette and follow the instructions to create your graph.

Choose this symbol and plot two points. Move your mouse to the location on the grid and right click to plot the point.

The screenshot shows a toolbar on the left with various icons. The 'Plot' icon, which is a blue line with an arrow, is circled in red. To the right of the toolbar is a grid with x and y axes ranging from -10 to 10. The y-axis is labeled 'y' and the x-axis is labeled 'x'.

The first line is drawn through $(6, 0)$ and $(0, 6)$ and looks like

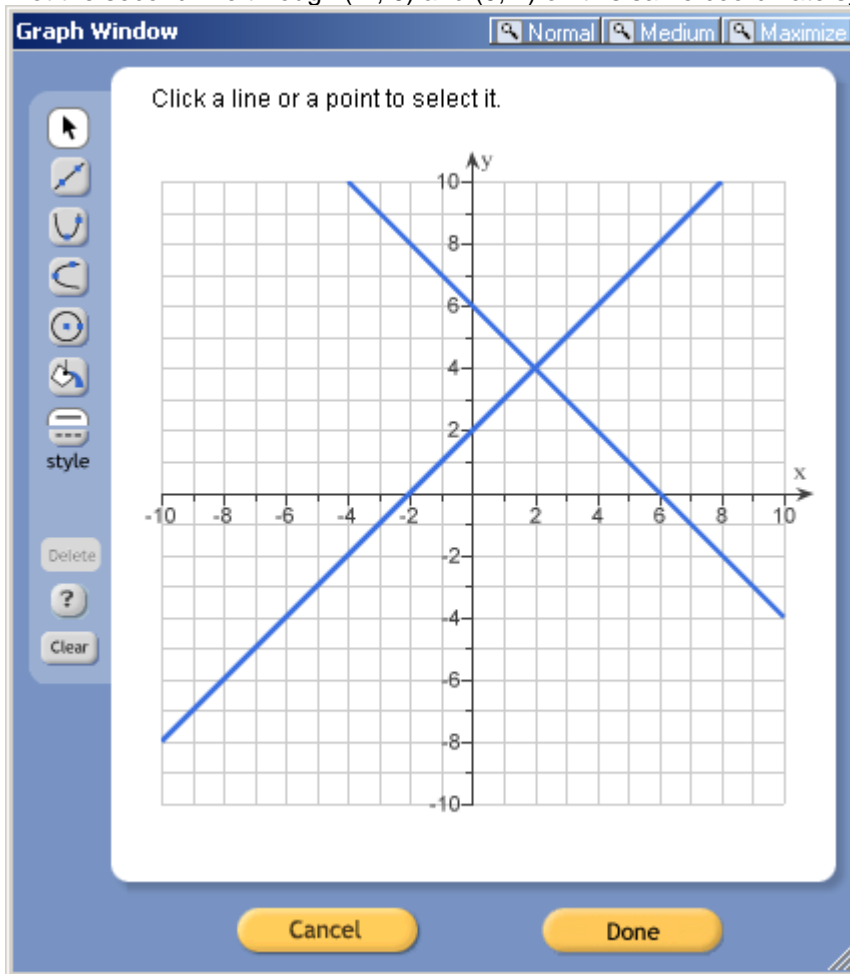


Graph Window [Normal] [Medium] [Maximize]

Click a line or a point to select it.

The screenshot shows the same grid as the previous image, but now a blue line is plotted. The line passes through the points $(6, 0)$ and $(0, 6)$. The x-axis is labeled 'x' and the y-axis is labeled 'y'. The toolbar on the left now includes buttons for 'style', 'Delete', '?', and 'Clear'. At the bottom of the window are two yellow buttons: 'Cancel' and 'Done'.

Plot the second line through $(-2, 0)$ and $(0, 2)$ on this same coordinate system to get



Now confirm your answer to the graph and enter the ordered pair that solves the system, that is, the point of intersection. The point of intersection for this system is $(2, 4)$.

This is what your final screen in your homework will look like:

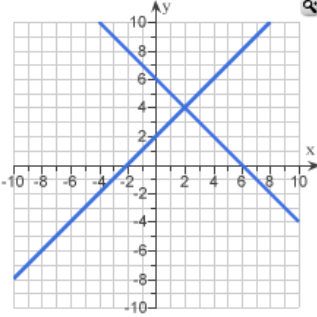
Homework Homework 8.1 ✓ Homework Overview ⬆ Back to Do Homework

Exercises ⏪ 1 2 **3** 4 5 6 7 8 9 10 ⏩ Andrea Hendricks

Solve the system of equations by graphing.

$$x + y = 6$$
$$x - y = -2$$

Use the graphing tool on the right to graph the two lines.



What is the solution of the system of equations?

(Type an ordered pair.)

The exercise is complete.

Next Exercise **Similar Exercise** *Problem Progress* **Print Homework** **Submit Homework**

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1 of 15 exercises correct

Problem 6, Section 8.1

Homework Homework 8.1 Homework Overview Back to Do Homework

Exercises 1 2 3 4 5 6 7 8 9 10

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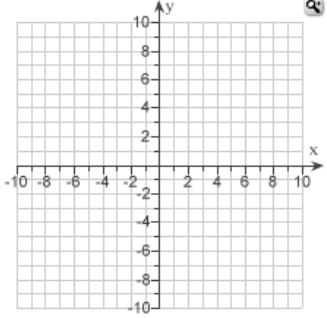
Solve the system of equations by graphing.

$$2x - 6y = 36$$

$$3x - 9y = -9$$

Use the graphing tool on the right to graph the two lines.

Click to enlarge graph



To pop up your graph, click the Click to enlarge graph button.

Check Answer Clear Answers Problem Progress Print Homework Submit Homework

1 of 15 exercises correct

Solution:

Step One: Find two ordered pair solutions to each equation. Begin by finding the intercepts.

First equation: $2x - 6y = 36$

x	y	(x, y)
0	-6	(0, -6)
18	0	(18, 0)

The problem here is that (18, 0) is outside of the graphing window in MyMathLab, so another solution needs to be found. You can do this by hand or use your graphing calculator. If you use the calculator, solve the equation for y, input it in y1, and then view the table (2nd, GRAPH) for "nice" solutions.

$$2x - 6y = 36$$

$$-6y = -2x + 36$$

$$y = 1/3x - 6$$

Plot1	Plot2	Plot3
Y1	1/3X-6	
Y2	=	
Y3	=	
Y4	=	
Y5	=	
Y6	=	
Y7	=	

X	Y1	
0	-6	
1	-5.667	
2	-5.333	
3	-5	
4	-4.667	
5	-4.333	
6	-4	
X=0		

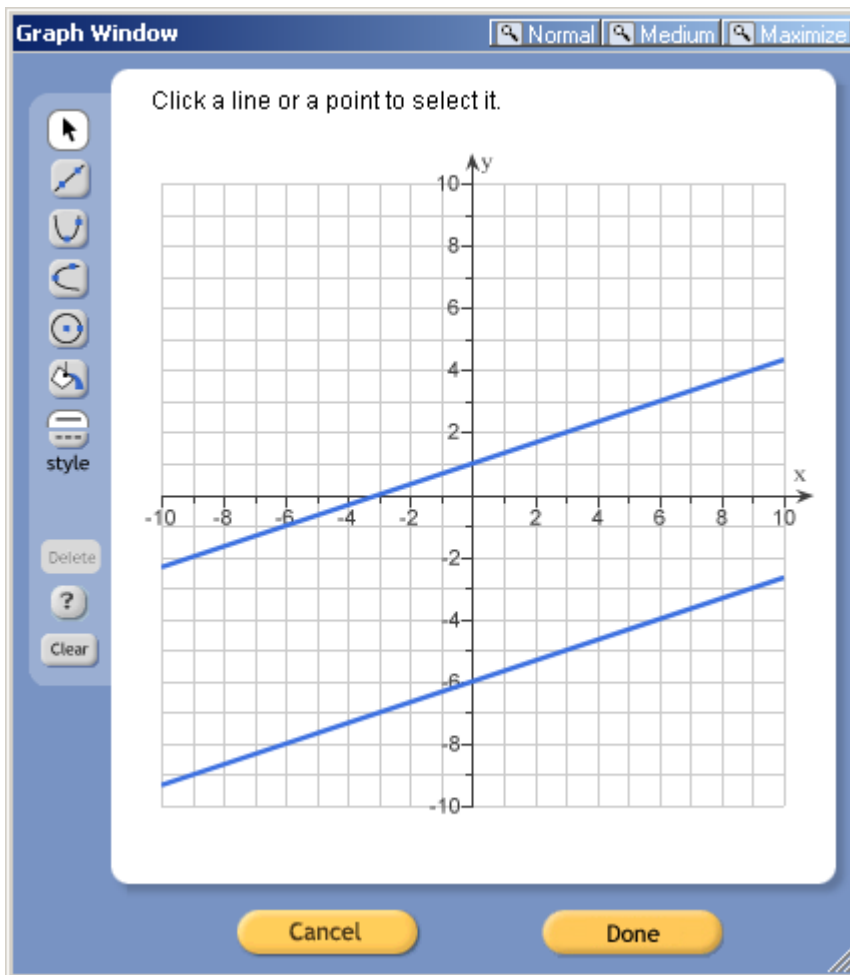
From the table, we can use solutions of (0, -6), (3, -5), and (6, -4). Only two of these are needed to graph.

Second equation: $3x - 9y = -9$

x	y	(x, y)
0	1	(0, 1)
-3	0	(-3, 0)

The x and y intercepts are “nice” solutions, so we do not need other points to graph this line.

Step Two: Plot these lines in MyMathLab.



Step Three: Find point of intersection.

Since these lines are parallel, there is no solution to this system.

The final screen in your homework will look like this:

Homework Homework 8.1 Homework Overview Back to Do Homework

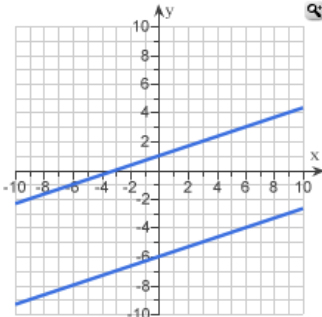
Exercises 1 2 3 4 5 6 7 8 9 10

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Solve the system of equations by graphing.

$$2x - 6y = 36$$
$$3x - 9y = -9$$

Use the graphing tool on the right to graph the two lines.



What is the solution of the system of equations?

no solution

infinitely many solutions

a point

The exercise is complete.

UNDO

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2 of 15 exercises correct

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