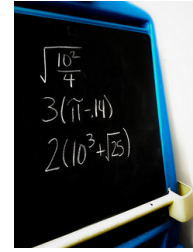


## Ready, Set, Go!



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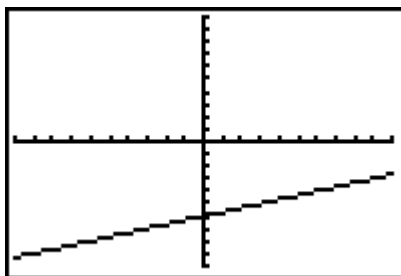
### Ready

Topic: Determine a good viewing window for graphs

When sketching a graph of a function, it is important that we see important points. For linear functions, we want a window that shows important information related to the story. Often, this means including both the x- and y- intercepts.

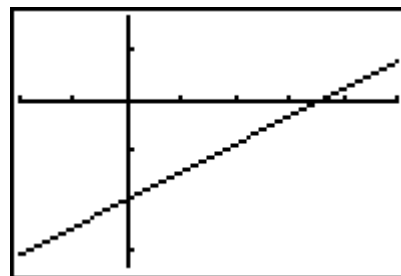
Example:  $g(x) = \frac{1}{3}x - 6$

Window:  $[-10, 10]$  by  $[-10, 10]$   
 x- scale: 1    y-scale: 1



NOT a good window

Window:  $[-10, 25]$  by  $[-10, 5]$   
 x- scale: 5    y-scale: 5



Good window

For the following equations, state a window that would be satisfactory for the given equation. Then sketch a graph in the boxes provided. If using a scale other than one, make sure to indicate this on your graph.



1.  $f(x) = 3x - 100$

[ ] by [ ]  
x-scale: y-scale:



2.  $5x + 7y = 15$

[ ] by [ ]  
x-scale: y-scale:



3.  $y = 5x + 15$

[ ] by [ ]  
x-scale: y-scale:



4.  $y = \frac{1}{3}x - 20$

[ ] by [ ]  
x-scale: y-scale:

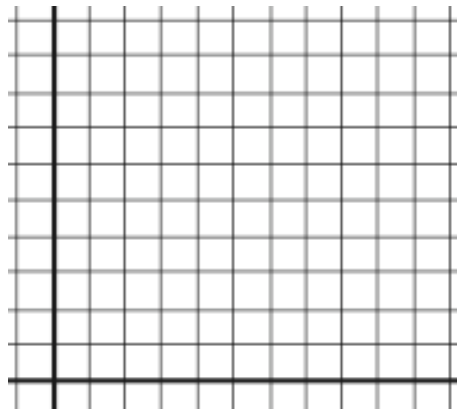


**Set**

Topic: Creating and solving two variable inequalities

5. Patty makes \$8 per hour mowing lawns and \$12 per hour babysitting. She wants to make at least \$100 per week but can work no more than 12 hours a week. Write and graph a system of linear inequalities.

List 2 possible combinations of hours that Patty could work at each job.



**Go**

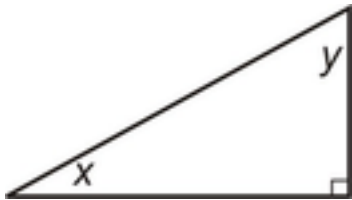
Topic: Solve systems of equations

Solve each system of equations

6. 
$$\begin{aligned} 3x + 5y &= -3 \\ x + 2y &= -\frac{4}{3} \end{aligned}$$

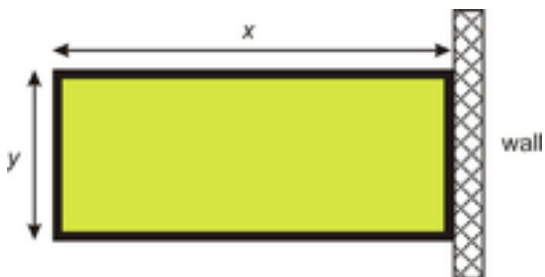
7. 
$$\begin{aligned} x - y &= -\frac{12}{5} \\ 2x + 5y &= -2 \end{aligned}$$

8. Of the two non-right angles in a right triangle, one measures twice as many degrees as the other. What are the angles?

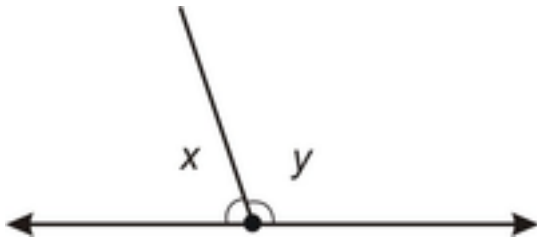


9. The sum of two numbers is 70 and the difference is 11. What are the numbers?

10. A rectangular field is enclosed by a fence on three sides and a wall on the fourth side. The total length of the fence is 320 yards. If the field has a total perimeter of 400 yards, what are the dimensions of the field?



11. A ray cuts a line forming two angles. The difference between the two angles is  $18^\circ$ . What does each angle measure?



Need Help? Check out these related videos:

<http://www.khanacademy.org/math/algebra/systems-of-eg-and-ineq/v/system-of-inequalities-application>

