

Submit your written solutions by end of day Thursday on Blackboard (look for the “Quiz #1” Assignment). Please **scan your written answers to a single pdf file**.

If you have access to a printer, print out this pdf and write your solutions in the spaces provided. Otherwise, write your answers on blank pieces of paper (you don’t have to rewrite the questions themselves, but write your responses in order and clearly numbered.)

You must show all your work for full credit!

1. Find the equation of the line passing through the points $(-1, 5)$ and $(3, -3)$, according to the following steps:
 - a. What is the slope m of the line? Show your calculations:

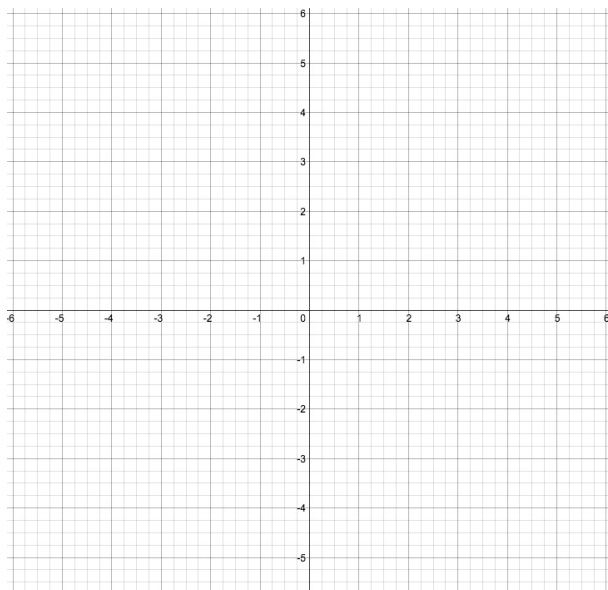
 - b. Write down the equation of the line in point-slope form, using the point $(-1, 5)$. (No need to simplify yet.)

 - c. Write down another equation of the same line, also in point-slope form, but using the point $(3, -3)$:

 - d. Simplify either (or both!) of your answers from (b) and/or (c) to get the equation of the line in slope-intercept form:

 - e. Use any of the equivalent equations of the line from (b)-(d) to algebraically solve for the x -intercept (i.e., plug in $y = 0$ and solve for x):

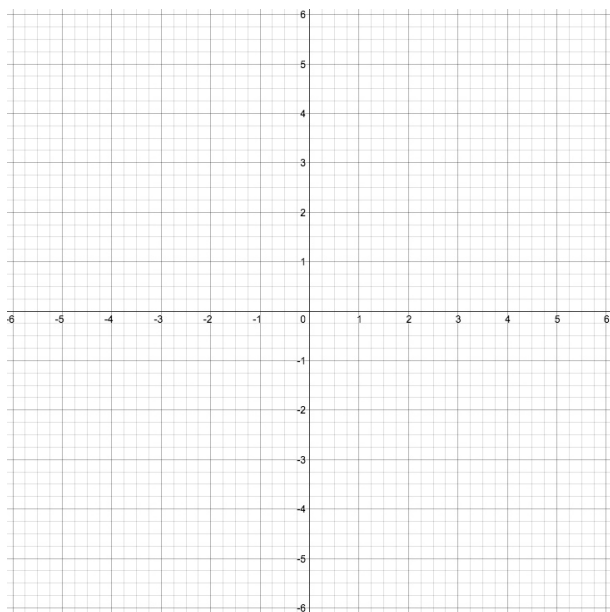
 - f. Sketch a graph of the line. Label the two given points $(-1, 5)$ and $(3, -3)$, and also label the x - and y -intercepts with their coordinates:



2. Consider the linear equation $x - 2y = -4$.
- a. Put the given linear equation in slope-intercept form:

b. Solve for the x -intercept of the line algebraically:

c. Sketch the graph of the line described by the equation. Label the x - and y -intercepts with their coordinates.



d. What is the slope of any line perpendicular to the given line?

$$m_p =$$

e. Write down the equation of the line which passes through the point $(1, -3)$ and is perpendicular to the one you graphed above. Also sketch the graph of this line on the same coordinate plane.