

Course: MFM2P Gr. 10 AppliedLesson: 3 - 6Unit: Linear RelationsTopic: Graphing Linear Relations

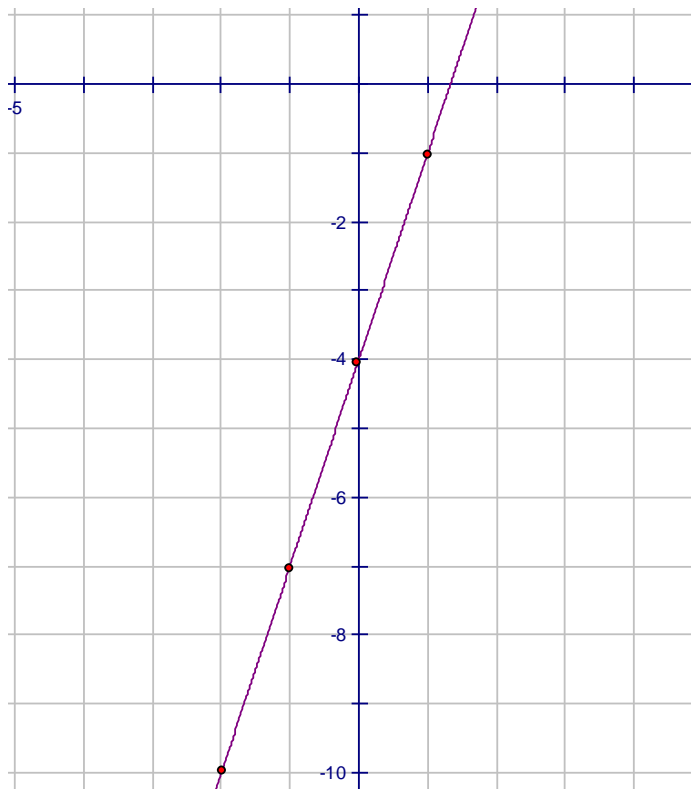
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✚ *homework check:* Lesson 3 - 5✚ *note:* Graphing Linear Relations

To graph a linear relation, we can either use the points provided by a table of values, or we can plot the y-intercept and apply the slope to find other points. For example, graph each of the following linear relations.

a)  $y = 3x - 4$  using a table of values

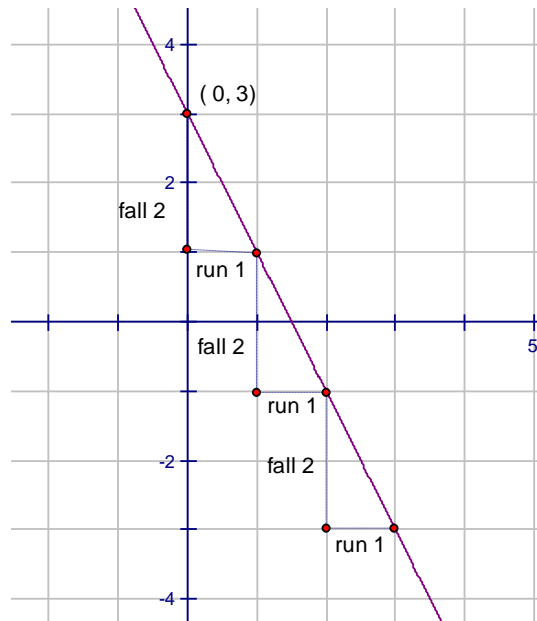
x	y
-2	-10
-1	-7
0	-4
1	-1
2	2



$y = -2x + 3$  has a y-intercept of  $(0, 3)$  which we plot first

- b) the slope of the line is  $-2$  which tells us  $\frac{\text{rise}}{\text{run}} = \frac{-2}{1}$

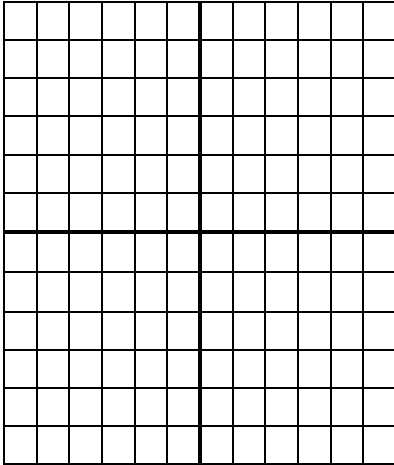
from the intercept of  $(0, 3)$  we fall 2 steps and run 1, fall 2 and run 1



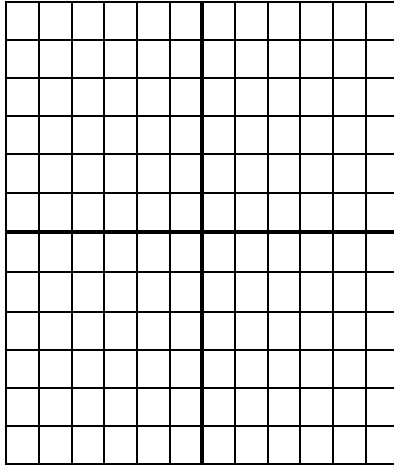
✚ Homework assignment: Lesson 3 - 6

**Lesson 3 – 6: Graphing Linear Relations****1. Graph each line on the grid provided.**

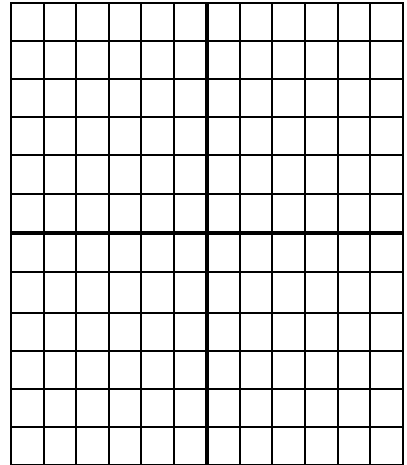
a)  $y = 2x - 4$



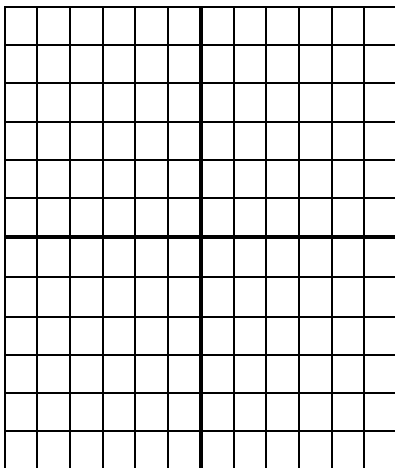
b)  $y = -x + 3$



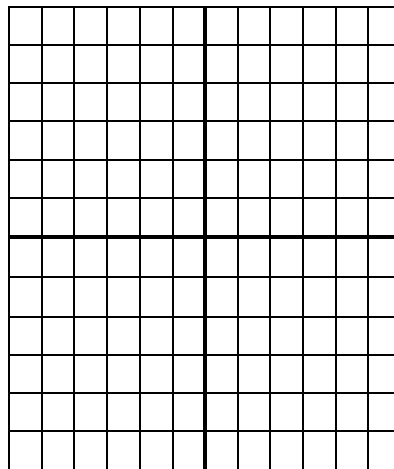
c)  $y = \frac{1}{2}x - 3$



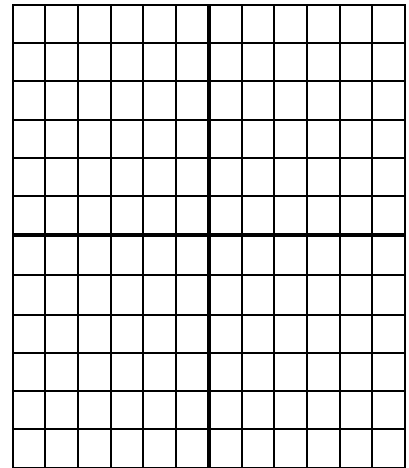
d)  $y = \frac{-3}{2}x + 4$



e)  $y = \frac{2}{3}x - 1$



f)  $y = \frac{-2}{3}x + 5$

**2. Identify the slope and the y-intercept given each scenario. Write an equation for each.**

a) Sam makes \$25 an hour plus \$125 for showing homes

b) Ariel is a model that makes \$50 an hour while shooting plus \$250 for makeup and hair.

c) Gabe uses a rented tool. He pays \$25 plus \$10 an hour.

d) Anna uses a book from the library. Her card costs \$25 plus \$7.50 each year.

3. A plane is flying 1000m above the ground when it begins to ascend at 10m per second.  
a) complete the table of values and draw a scatter plot with time on the horizontal axis

Time (s)	Height (m)
0	
5	
10	
15	
20	
25	
30	


- b) Write an equation for this relation.
- c) What is the altitude of the plane after 22 seconds? Use your equation to answer.
4. The cost of providing bottled water at a high school function is \$25 for the cooler rental and \$0.65 per bottle. The school plans on selling the bottles for \$1.25 each.
- a) Write an equation that represents the costs to provide the water.
- b) Write an equation that represents the money collected to sell the water.
- c) Set these equations equal to one another and solve for x. What is the significance of this point?