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| * http://textbooks.cpm.org/images/cc3/chap03/CC3_3.1.4title.pngIn Lesson 3.1.3, you used a graphing tool to represent all of the *x* → *y*pairs that follow a particular rule.  Today you will learn how to make your own graphs for rules and how to recognize patterns in graphs.
* **3-33.** CLASS GRAPH
* Your teacher will give your team some *x*-values. For each *x*-value, calculate the corresponding *y*-value that fits the rule *y* = −5*x* + 12. Then mark the point you have calculated on the class graph.
* **3-34.** Use the rule *y* = 2*x* + 1 to complete parts (a) through (c) below.
	1. http://textbooks.cpm.org/images/cc3/chap03/CC3_3-34a.pngMake a table like the one below and use the rule provided above to complete it.
	2. Examine the numbers in the table. What are the greatest *x*- and *y*-values in the table? What are the smallest *x*- and *y*-values? Use this information to set up *x*- and *y*-axes that are scaled appropriately.
	3. http://mathbits.com/MathBits/StudentResources/GraphPaper/14by14%20axes.jpgPlot and connect the points on a graph. Be sure to label your axes and write numbers to indicate scale.
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**3-35.** Calculate the *y*-values for the rule *y* = −3*x* + 1 and complete the table below.http://textbooks.cpm.org/images/cc3/chap03/CC3_3-35.png* 1. Examine the *x-* and *y*-values in the table.  Is it possible to use the same set of axes as problem 3‑34?  If so, graph and connect these points on the axes from problem 3‑34.  If not, plot and connect the points on a new set of axes.
	2. What does your graph look like?  Describe the result.
	3. How is this graph similar to the graph in problem 3-34?  How is it different?

**3-36.** Calculate the *y*-values for the rule *y* = *x*2 and complete the table below.http://textbooks.cpm.org/images/cc3/chap03/CC3_3-34a.png* 1. http://mathbits.com/MathBits/StudentResources/GraphPaper/14by14%20axes.jpgExamine the *x*- and *y*-values in the table.  Use this information to set up a new set of *x*- and *y*-axes that are scaled appropriately.  Plot and connect the points on your graph, and then label your graph with its rule.
	2. This graph is an example of a **parabola**.  Read about parabolas in the Math Notes box below.  Where is the **vertex** of the parabola you graphed in part (a)?
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