

5-2 Plotting Equations

Review of formulas

$y=2x - 8$ is a formula. If we plug a 1 in for x the formula is $y=2(1) - 8$. For $x=1$, $y= - 6$.
If we plug a 0 in for x the formula is $y=2(0) - 8$. For $x=0$, $y= - 8$.

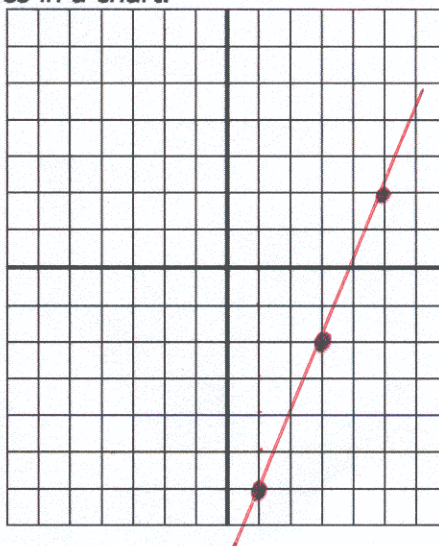
x	y
1	-6
0	-8
-1	-10
5	2
3	-2

We can keep these values in a chart.

Fill in the remaining three y values.
These are ordered pairs and can be plotted on the graph.

$(1, -6)$, $(0, -8)$,
 $(-1, -10)$, $(5, 2)$, $(3, -2)$

Connect the dots.



Try this formula. The first point has been done for you. Choose three more values for x and find all the corresponding y values. You should have 12 ordered pairs to plot.

$y= \frac{1}{2} x^2 - 4$ for $x=2$ the formula is $y= \frac{1}{2} (2)^2 - 4 = \frac{1}{2} (4) - 4 = -2$

x	y
2	-2
0	-4
-2	-2
4	4
-4	4
6	14
-6	14
1	$-3\frac{1}{2}$
-1	$-3\frac{1}{2}$

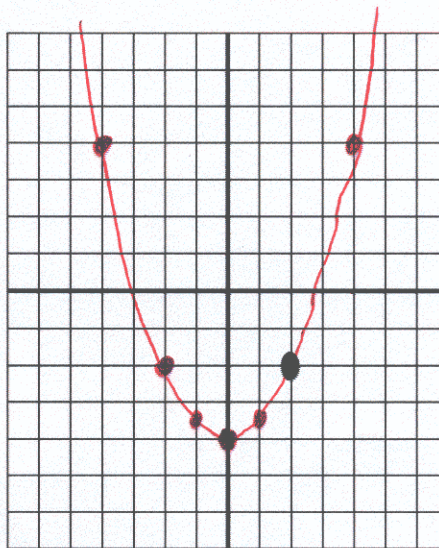
values

Fill in the remaining three y values.
These are ordered pairs and can be plotted on the graph.

$(2, -2)$, $(0, -4)$,
 $(-2, -2)$, $(4, 4)$, $(-4, 4)$,

Finish writing all twelve ordered pairs. Then plot the points and connect the dots.

$(6, 14)$ $(-6, 14)$
 $(1, -3\frac{1}{2})$ $(-1, -3\frac{1}{2})$



The first equation made a straight line. The second is a cup shape called a parabola.

Plot a few more equations on the following page.