Name _____
Pd _____ Date _____

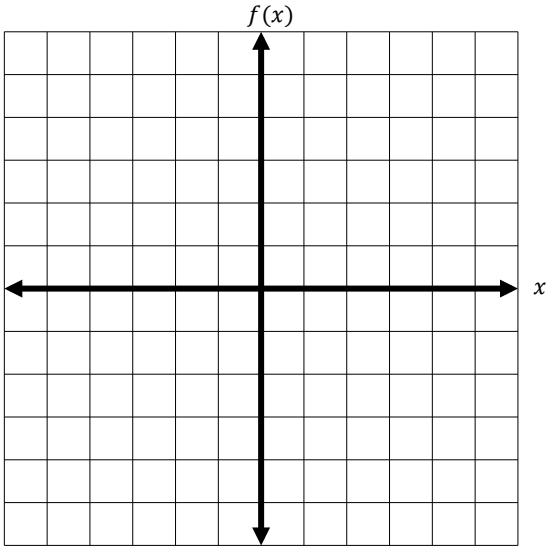
1. In previous math classes you worked with **linear functions**: those of the form $y = mx + b$. With our function notation, these **linear functions** will now often be written as $f(x) = mx + b$.

   Complete the table below and use the resulting ordered-pairs to create the graph for $f(x) = \frac{1}{2}x - 3$.

x	*f(x)*
-4	-5
-2	
0	
2	
4	

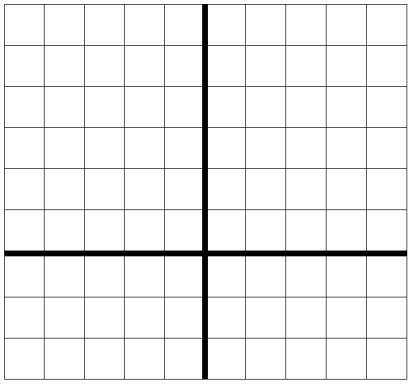
$f(x) = ½\,x - 3$

$f(-4) = ½\,(-4) - 3$
$= -2 - 3$
$= -5$



2. Complete the table below and use the resulting ordered-pairs to create the graph for $g(x) = 5 - 3x$

x	*g(x)*
0	
1	
2	



3. Analyze the following tables and then answer the questions that follow.

$f(x) = \frac{1}{2}x$

x	*f(x)*
-100	-50
-6	-3
4	2
10	5
18	9

$g(x) = \frac{1}{3}x$

x	*g(x)*
-15	-5
-6	-2
3	1
12	4
33	11

$h(x) = \frac{1}{4}x$

x	*h(x)*
-40	-10
-12	-3
4	1
44	11
100	25

Summarize

a. Multiplying by **½** has the same result as _____ .

b. Multiplying by **⅓** has the same result as _____ .

c. Multiplying by **¼** has the same result as _____ .

d. Multiplying by $\mathbf{1/x}$ has the same result as _____ .