

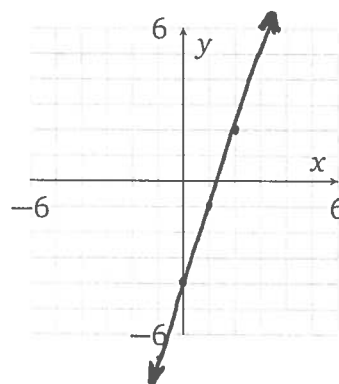
Function Graphs and Tables

1. Let f be a function that triples its input, and then subtracts 4.

- (a) Give a table for f . Use at least five input values.

x	$f(x)$
-2	-10
-1	-7
0	-4
1	-1
2	2

- (b) Give a graphical representation of f . Make your graph reasonably neat.

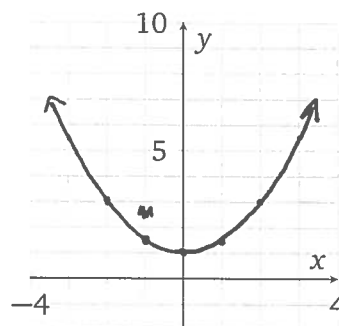


2. Let "bowl" be a function that squares its input, then divides by two, and then adds 1.

- (a) Give a table for bowl. Use at least five input values.

x	bowl(x)
-2	3
-1	1.5
0	1
1	1.5
2	3

- (b) Give a graphical representation of bowl. Make your graph reasonably neat.

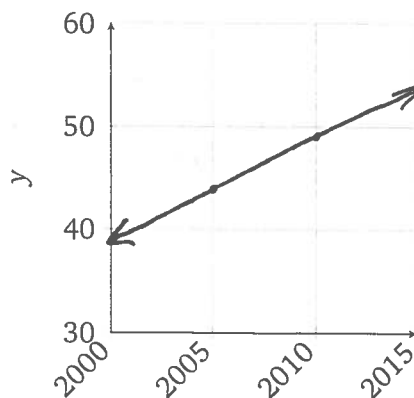


3. Barack Obama was born on August 4, 1961. Let a be a function that finds his age on August 4 in year x .

- (a) Give a table for a . Use at least ^{four} five input values.

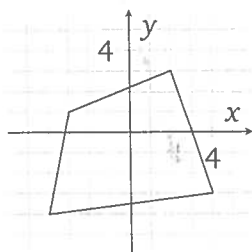
x	$a(x)$
2000	39
2005	44
2010	49
2015	54

- (b) Give a graphical representation of a . Make your graph reasonably neat.

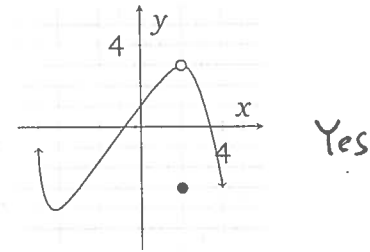
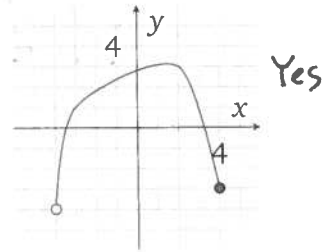
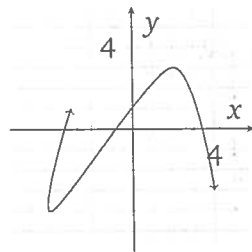
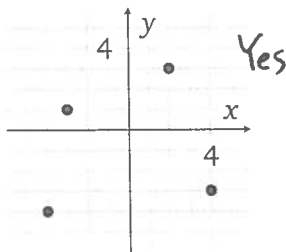
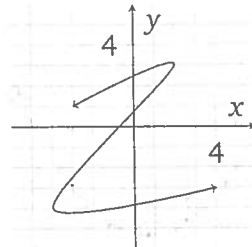


4. Use your graphing calculator to graph each of the functions from the previous problems. In each case, make the viewing window the same as was provided on the worksheet. If you do not know how to do this on your calculator, ask me or your neighbors for help. *The purpose of this exercise is to make sure that all students are familiar with how to plot functions and control the viewing window.*
5. Here are some graphs that give relations between x and y . Your job is to determine if the relation can be used to define y as a function of x . For each graph, after you make your decision, say a little bit about why. If you decide that the relation can be used to define a function, then you can just say that. But if it *cannot*, then give a reason why. For example, you might say something like "There is more than one possibility for what $f(2)$ would be."

No. for instance the input 1 has two outputs...



No for instance the input -2 has three outputs.



No. for instance the input -3.5 has two outputs.

6. Which of these tables describe y as a function of x ?

x	y
1	-12
2	10
3	8
4	5
5	13
6	11

Yes

x	y
10	3
15	4
20	3
25	4
30	3
35	4

Yes

x	y
-12	9
10	8
8	3
5	-2
13	1
11	1

Yes

x	y
2	-2
4	17
5	1
8	8
4	13
5	10

No

x	y
3	-1
8	10
7	14
7	14
12	13
16	-9

Yes

x	y
red	Mercury
orange	Venus
yellow	Earth
green	Mars
blue	Jupiter
purple	Saturn

Yes