Introduction to Functions

To define a function we must first start by defining a ***relation*** or ***relationship.***

*A **relation*** is...

A relation can be defined using:

1) Set of ordered points 2) table 3) graph 4) equation 5) mapping diagram

So what is a **function**?

1. Which relations are functions?

a) $\{(1,2),(2,3),(4,5),(5,5)\}$

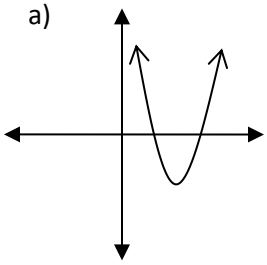
b)

Shoe Size	Height (cm)
8	158 cm
9	165 cm
10	170 cm
10	174 cm
11	183 cm

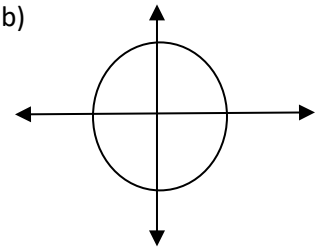
c) $y = x^2 - 4$

2. Examine the graphs below, which are functions?

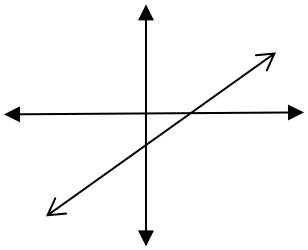
a)



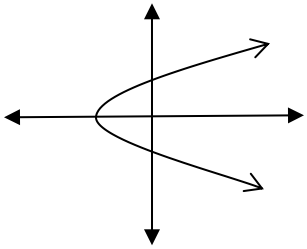
b)



c)



d)

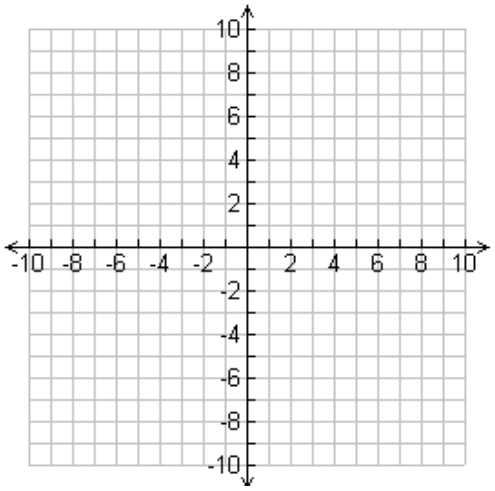


We can use the **vertical line test** to determine whether a graph represents a function or not. (see page 8 of textbook)

3. Graph each function below by completing a table of values.

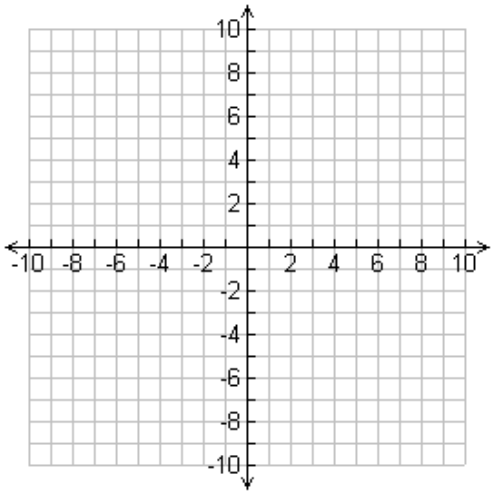
a) $y = 3x - 1$

x	*y*
-2	
-1	
0	
1	
2	



b) $y = -x^2 + 2x + 2$

x	*y*
-3	
-2	
-1	
0	
1	
2	
3	



Text page 12 #1,3,5,7, 12 (just pick a couple players/teams from any sport you know, or make it up!)

Text page 5 #2, 3