

<b>Table One</b>		<b>Table Two</b>		<b>Table Three</b>	
<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>
0	3	0	3	0	1
2	3	2	1	0	2
4	3	4	-1	4	3
6	3	6	-3	4	4

**Figure 1**

1. For each of the given (input, output) relationships in Table One, Two and Three (Figure 1); answer the following:

i) Is the relationship a function? Why or why not?

For the relationships that are functions; also answer:

ii) What is the domain of the function?

iii) What is the range of the function?

- a. A a function of B                      b. B a function of A                      c. C a function of D  
d. D a function of C                      e. E a function of F                      f. F a function of E

2. Give a verbal (written) description of a function. State the domain and range.
3. Give a verbal (written) description of a relationship that is not a function. Explain why it is not a function.
4. What is the domain and range for each of the following functions? Show your work for determining the domain when applicable. You may find graphing the function or using the calculator table feature for the function to be helpful; especially for determining the range. If you do so, include a sketch of the graph (label key points).

- a.  $f(x) = x^2 + 4$                       b.  $f(x) = 4 - x^2$                       c.  $f(x) = \frac{1}{3x}$   
d.  $f(x) = \frac{1}{2x+1}$                       e.  $f(x) = \frac{1}{4+x^2}$                       f.  $f(x) = \sqrt{2x-3}$   
g.  $f(x) = \sqrt{4-x^2}$                       h.  $f(x) = \frac{1}{\sqrt{x^2+2}}$                       i.  $f(x) = \frac{1}{\sqrt{3-x}}$