Advanced Algebra 3/4 Name:_____________

Functions, Inverses, and Tables

Part 1: Fun with Functions!

Remember the definition of a function: A relation where each INPUT has exactly one OUTPUT.

1. Three of the following tables are functions. Identify which are functions.

x	0	1	2	3	4	5
y	9	8	7	6	5	4

x	0	1	2	3	4	5
y	9	9	9	9	9	9

x	9	9	9	9	9	9
y	5	6	7	8	3	43

x	0	1	2	2	1	0
y	0	1	4	4	1	0

x	0	1	2	2	1	0
y	0	1	4	-4	-1	0

2. How can you identify if a table is a function?

3. Find the equation for at least one of the tables.

4. Choose one of the tables and create a table for its inverse.

Part 2: Investigating Inverses

Remember the definition of an inverse: a relation where the INPUT and OUTPUT are switched.

Consider the following table. The functions f(x) and g(x) are inverses.

x	0	3	6	9	12
f(x)	6	9	3	11	0
g(x)	12	6	0	3	55

1. Explain why the functions are inverses.

2. One of the following tables represents inverse functions. Identify which one and explain how you know.

Table 1

x	h(x)	k(x)
0	1	-1
1	2	0
2	9	1
9	730	2
4	65	1.4422

Table 2

x	p(x)	q(x)
0	1	-1
1	2	0
2	9	9
9	2	730
4	65	1.4422

3. Complete the following table so that s(x) and t(x) are inverses.

x	0	3		5	7
s(x)	3		0	7	
t(x)				9	

4. Make a table that represents a function, but whose inverse is NOT a function. Explain why your table meets BOTH conditions