Name:_____

Lecture 6, class activity, Remainders

1. Fill out each of the following tables, noting that the first table is for + and the second for ×:

+	even	odd
even		
odd		

×	even	odd
even		
odd		

2. Fill out each of the following tables, where we are writing **the remainder modulo 2**:

+	0	1
0		
1		

×	0	1
0		
1		

3. Let $n = 2k + r_1$ and $m = 2l + r_2$. Show that the remainder of $n + m$ is $r_1 + r_2$. What does this have to do with the previous two tables?

4. Compute all of the numbers asked for below. Describe the pattern that you see.

	$n = 1$	$n = 2$	$n = 3$	$n = 4$	$n = 5$
2^n					
$2^n \pmod 5$					
7^n					
$7^n \pmod 5$					
$(-3)^n$					
$(-3)^n \pmod 5$					