

Name: \_\_\_\_\_

Date: 3/22/2012

Period: \_\_\_\_\_

### Investigate Multiplying Integers:

Multiplication as repeated addition:

If your net worth is \$0 and you add a debt of \$5, what is your new net worth? \_\_\_\_\_

If your net worth is \$0 and you take on 3 debts of \$5 each, what is your new net worth?

\_\_\_\_\_

What is  $3 \times (-5) =$  \_\_\_\_\_

Complete the following table – look for patterns that you think make sense when multiplying positive and negative numbers.

Multiplication Patterns

5	x	4	=
5	x	3	=
5	x	2	=
5	x	1	=
5	x	0	=
5	x	-1	=
5	x	-2	=
5	x	-3	=
5	x	-4	=
5	x	-5	=

Make a conjecture (prediction) on a rule that you can use when you multiply a positive number by a negative number:

Using what you discovered about multiplying a negative  $\times$  a positive, complete the following table – look for patterns that you think make sense when multiplying a negative by a negative.

Multiplication Patterns

-5	$\times$	5	=
-5	$\times$	4	=
-5	$\times$	3	=
-5	$\times$	2	=
-5	$\times$	1	=
-5	$\times$	0	=
-5	$\times$	-1	=
-5	$\times$	-2	=
-5	$\times$	-3	=
-5	$\times$	-4	=
-5	$\times$	-5	=
-5	$\times$	-6	=

Make a conjecture (prediction) on a rule that you can use when you multiply a negative number by a negative number: