**Negative and Zero Exponents**

**Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date**: \_\_\_\_\_\_\_\_

**Page 1.8**

As you move the sliders up and down, fill in the exponents in the spaces below. Look at your results to see if there is a pattern.

 

 

Do you notice a pattern? Will this pattern work with any number?

Open a scratch pad and see if this pattern will work for any number. Try the list below.

   

Does the pattern also work with variables? Complete the problems below.

   

Negative exponent rule.

When raising any number to a negative exponent ……..



What if the negative exponent is in the denominator? Open up a scratch pad and see what the patter is. Record your results in the space below. What do you notice?

**Simplify. Write the answer using only positive exponents.**



**Page 1.10**

Move to page 1.10. As you move the sliders up and down, look at your results to see if there is a pattern. What do you notice when you take a number and raise it to the power of 0? Do you think this will work for any number? Use your scratchpad and test your conjecture with different numbers. Use positives, negatives, fractions, decimals, large numbers and small numbers.

What is the rule?

**Combining rules:**

Simplify the expressions. Write your answer with only positive exponents.



