**Math 9 Exponent Laws (part 2) Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Day \_\_\_ Period \_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Warm-up:**

When multiplying the same bases together you can just \_\_\_\_\_\_ the exponents.

When dividing the same bases you can just \_\_\_\_\_\_\_\_\_\_\_\_\_ the exponents.

What is What is ?

**Activity 1:**

In your group, discuss what means.

It means\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Try writing in expanded form.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Now count up the number of 4s you have and rewrite in exponential form. You should only have ONE exponent this time. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Activity 2:** Fill in the table below. The first row has been done for you.

|  |  |  |  |
| --- | --- | --- | --- |
| A power raised to an exponent | Partly expanded | Fully expanded | Exponential form |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Look at your table. Is there a faster way to go from the first column to the last column? Write it down.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Activity 3: Raising a quotient to an exponent. Raising a product to an exponent.**

Write in simplified exponential form. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write in simplified exponential form. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write in simplified exponential form. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write as a quotient of two powers. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write as a product of two powers. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exponent Law 4**

**Exponent Law 5**

**Exponent Law 6**

**Activity 4**- Check your understanding Based on your understanding of the 6 Laws…

Based on your understanding of the 6 Laws…Which of the following can/cannot be done. Circle either can or cannot.

1. can/ cannot
2. can/ cannot
3. can/cannot
4. can/ cannot
5. can/ cannot
6. can/cannot