**2.1 – What Is a Power?**

A product of equal factors can be written as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Ex: 5 × 5 × 5

We say:

 53

5 to the \_\_\_\_\_\_\_\_\_ ,

5 to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , or

5 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

NOTE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ numbers are numbers that can be written as a power with an integer base and exponent 2 or 3, respectively.

Ex.

Ex. 1: Write the following as powers.

1. 3 × 3 × 3 × 3 × 3 × 3 × 3

**Note:** The **base** is the number that is multiplied over and over. The number of times it is multiplied over and over is the **exponent**.

1. 7
2. -(-9)(-9)(-9)(-9)(-9)

Ex. 2: Write as repeated multiplication and in standard form.

1. 43

When you evaluate the power to get the number it represents this answer is said to be in **standard form**.

1. (-2)5
2. -74

Ex. 3: Identify the base of the power and evaluate.

1. (-3)4
2. -34
3. –(-3)4
4. –(-34)

Ex. 4: Why do (-2)3 and -23 give the same answer?