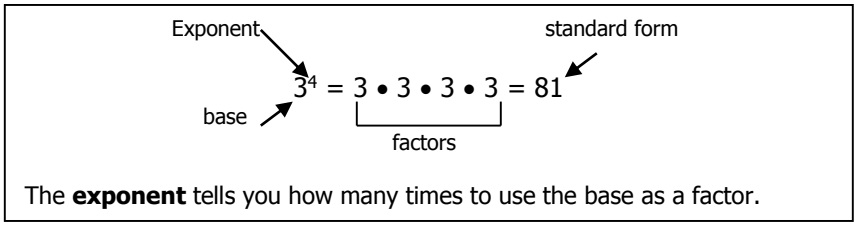
Powers and Exponents Notes

Numbers using exponents are called **powers. Numbers can be called **perfect squares** if they are the "square" of whole numbers.**



The **exponent** tells you how many times to use the base as a factor.

Example #1: **Write 4 • 4 • 4 • 4 • 4 using an exponent.**

The base is ☐. It is used as a factor ☐ times, so the exponent is ☐.

$4 \bullet 4 \bullet 4 \bullet 4 \bullet 4 = 4^5$ (4 is used as a factor 5 times)

Example #2: **Write 6^3 as a product of the same factor. Then find the value.**

The base is ☐. The exponent is ☐. So, ☐ is used as a factor ☐ times.

6^3 = 6 • 6 • 6 (Write 6^3 as a product)
= ☐ (Multiply)

Practice Problems: Do these problems on the journal page to find out!

Write each product using an exponent.

1. 2 • 2 • 2 • 2
2. 10 • 10 • 10
3. $(\frac{1}{4} x \frac{1}{4} x \frac{1}{4} x \frac{1}{4})$
4. 7 x 7 x 7 x 7 x 7
5. 2.4 • 2.4 • 2.4
6. 6 • 6 • 6 • 6 • 6 • 6

Write each power as a product of the factors. Then find the value.

1. 7^3
2. 2^7
3. 3.1^2
4. $(\frac{1}{3})^3$