

Powering Up with Exponents Basics

Exponents are sometimes called powers. In pre-algebra, an exponent is a smaller number to the upper right of a letter or number. You read it by calling it a power. Example: 4^2 would be read as “four to the second power”. Think of exponents with special multiplication rules. Let’s look at one example.



$$2^3$$

Another way to write this number would be:

$$2 \times 2 \times 2$$

According to the order of operations, you multiply 2×2 which equals 4. Then you multiply 4×2 which equals 8. $2^3 = 8$

In Pre-Algebra, you may see exponents matched with numbers, so a common formula to memorize that will help you recognize exponents is $a^n = a \times a \times a \times a \dots$ (you will have as many a’s as the number for n).

Here are some additional problems for you to try:

$$4^4 \quad \underline{\hspace{2cm}}$$

$$8^3 \quad \underline{\hspace{2cm}}$$

$$5^2 \quad \underline{\hspace{2cm}}$$

$$6^3 \quad \underline{\hspace{2cm}}$$

$$4^3 \quad \underline{\hspace{2cm}}$$

$$10^4 \quad \underline{\hspace{2cm}}$$

$$1^3 \quad \underline{\hspace{2cm}}$$

$$7^5 \quad \underline{\hspace{2cm}}$$

$$9^2 \quad \underline{\hspace{2cm}}$$

Answer Key:

$$4^4 = 4 \times 4 \times 4 \times 4 = 256$$

$$8^3 = 8 \times 8 \times 8 = 512$$

$$5^2 = 5 \times 5 = 25$$

$$6^3 = 6 \times 6 \times 6 = 216$$

$$4^3 = 4 \times 4 \times 4 = 64$$

$$10^4 = 10 \times 10 \times 10 \times 10 = 10,000$$

$$1^3 = 1 \times 1 \times 1 = 1$$

$$7^5 = 7 \times 7 \times 7 \times 7 \times 7 = 16,807$$

$$9^2 = 9 \times 9 = 81$$