

STUDY LINK
7•3

Interpreting Scientific Notation



Scientific notation is a short way to represent large and small numbers. In scientific notation, a number is written as the product of two factors. One factor is a whole number or a decimal. The other factor is a power of 10.

Scientific notation: $4 * 10^4$

Meaning: Multiply 10^4 (10,000) by 4.

$$4 * 10^4 = 4 * 10,000 = 40,000$$

Number-and-word notation: 40 thousand

Scientific notation: $6 * 10^6$

Meaning: Multiply 10^6 (1,000,000) by 6.

$$6 * 10^6 = 6 * 1,000,000 = 6,000,000$$

Number-and-word notation: 6 million

Guides for Powers of 10

10^3	one thousand
10^6	one million
10^9	one billion
10^{12}	one trillion

Complete the following statements.

1. The area of Alaska is about $6 * 10^5$, or _____ thousand, square miles.

The area of the lower 48 states is about $3 * 10^6$, or _____ million, square miles.

2. There are about $6 * 10^9$, or _____ billion, people in the world.
3. It is estimated that about $5 * 10^8$, or _____, people speak English as their first or second language.
4. In Bengal, India, and Bangladesh there are about $2.6 * 10^8$, or _____, people who speak Bengali.
5. At least 1 person in each of $1 * 10^7$ households, or _____, watches the most popular TV shows.

Source: *The World Almanac and Book of Facts, 2000*

Practice

6. $5 * (3^2 + 4^2) =$ _____

7. $3 * (9 + 16) =$ _____

8. $2 * (9 + h) = 20$ _____

9. $g = (7^2 - 2^2)$ _____

