Scientific Notation

Pongrapee Kaewsaiha

What is scientific notation?

Scientific notation is an expression of numbers that are too large or too small.

Example

A CPU speed of 1.7 gigahertz (1,700,000,000 hertz). This number can be written as 1.7×10^{9}.

A transistor of 5nm (nanometers), or 0.000000005 meter. This number can be written as 5×10^{-9}.

Follow this link to learn more about SI prefixes.

Common form

A nonzero number can be written in the form

$$m \times 10^{n}$$

where m is the "coefficient" and $1 \leq m < 10$,

n is an "exponent" which is an integer.

Example

$2577.1 = 2.5771 \times 10^{3}$

$0.00015 = 1.5 \times 10^{-4}$

$25{,}000 = 2.5 \times 10^{4}$