

REVIEW POWERS OF TEN

It is often useful to use powers of ten when expressing large and small numbers.

Positive exponents:

$$10^2 =$$

$$10^3 =$$

$$10^6 =$$

What is a trillion?

NOTE:

A positive exponent tells how many zeros follow the 1 .

A negative exponent tells how many places are to the right of the decimal point, including the 1.

Negative exponents:

$$10^{-2} =$$

$$10^{-3} =$$

$$10^{-6} =$$

How do you write one-trillionth?

Multiplying and Dividing Powers of 10.

Rules of exponents:

$$a^m \times a^n = a^{m+n}$$
$$\frac{a^m}{a^n} = a^{m-n}$$
$$(a^m)^n = a^{m \times n}$$

$$10^4 \times 10^9 =$$

$$10^5 \times 10^{-4} =$$

$$10^{-7} \times 10^{-3} =$$

$$10^4 \div 10^9 =$$

$$10^5 \div 10^{-4} =$$

$$10^{-7} \div 10^{-3} =$$

Adding and Subtracting Powers of 10

If the powers of 10 are not the same, one must write them in decimal notation.

$$10^4 + 10^3 =$$

$$10^5 + 10^{-4} =$$

$$10^{-7} + 10^{-3} =$$