

Exercise

Write these numbers in scientific notation.

240000 = _____ 9808000 = _____

5550 = _____ 0.091 = _____

Write these numbers in regular notation.

$5.5 \times 10^{-7} =$ _____ $7.1 \times 10^{10} =$ _____

$5.43 \times 10^3 =$ _____ $1.0 \times 10^3 =$ _____

C. Rules for working with numbers in scientific notation.

Rule 1: When multiplying, the exponents are added (the base must be the same).

example: $10^2 \times 10^5 = 10^7$

Try these:

$10^3 \times 10^5 =$ _____ $10^{-3} \times 10^{-5} =$ _____

$10^{-3} \times 10^5 =$ _____ $(8.0 \times 10^5)(1.2 \times 10^8) =$ _____

Rule 2: When dividing, exponents are subtracted (the base must be the same).

example: $\frac{10^5}{10^3} = 10^2$

Try these:

$\frac{10^3}{10^5} =$ _____ $\frac{10^{-3}}{10^{-5}} =$ _____

$\frac{10^{-3}}{10^5} =$ _____ $\frac{12 \times 10^8}{6.0 \times 10^5} =$ _____

Rule 3: Exponents raised to another exponent are multiplied.

$(10^2)^3 = 10^{2 \times 3} = 10^6$

examples:

$(3 \times 10^8)^2 =$ _____