

Scientific Notation

Express each number in scientific notation.

1. $3,400,000,000$

3.4×10^9

2. 0.000000312

3.12×10^{-7}

3. $2,091,000$

2.091×10^6

4. 0.00142

1.42×10^{-3}

Express each number in standard form.

5. 2.1×10^5

$210,000$

6. 8.023×10^{-7}

$.0000008023$

7. 3.63×10^{-6}

$.00000363$

8. 7.15×10^8

$715,000,000$

Evaluate each product. Express the results in scientific notation.

9. $(6.1 \times 10^5)(2 \times 10^5)$

$12.2 \times 10^{5+5}$

12.2×10^{10}

1.22×10^{11}

10. $(4.4 \times 10^6)(1.6 \times 10^{-9})$

$(4.4 \times 1.6) \times 10^{6+(-9)}$

7.04×10^{-3}

11. $(2.2 \times 10^{-3})^2$

$2.2^2 \times 10^{-3 \cdot 2}$

4.84×10^{-6}

12. $(3.4 \times 10^2)^2$

$3.4^2 \times 10^{2 \cdot 2}$

11.56×10^4

1.156×10^5

Evaluate each quotient. Express the results in scientific notation.

13. $\frac{9.2 \times 10^{-8}}{2 \times 10^{-6}}$

$4.6 \times 10^{-8+6}$

4.6×10^{-2}

14. $\frac{4.8 \times 10^4}{3 \times 10^{-5}}$

$1.6 \times 10^{4+5}$

1.6×10^9

15. $\frac{1.161 \times 10^{-9}}{4.3 \times 10^{-6}}$

$.27 \times 10^{-9+6}$

$.27 \times 10^{-3}$

2.7×10^{-4}

16. $\frac{4.625 \times 10^{10}}{1.25 \times 10^4}$

$3.7 \times 10^{10-4}$

3.7×10^6