Key

Operations with Scientific Notation - Practice

Addition and Subtraction

Before numbers in scientific notation can be added or subtracted, the exponents must be equal.

Not equal — Equal

$(3.4 \times 10^2) + (4.57 \times 10^3) = (0.34 \times 10^3) + (4.57 \times 10^3)$

The decimal is moved to the left to increase the exponent.

$= (0.34 + 4.57) \times 10^3$

$= 4.91 \times 10^3$

1. $(9.19 \times 10^3) + (2.3 \times 10^4)$

$0.919 \times 10^4 + 2.3 \times 10^4$

3.219×10^4

2. $(5 \times 10^4) - (4 \times 10^2)$

$5 \times 10^4 - 0.04 \times 10^4$

4.96×10^4

3. $(6.75 \times 10^4) - (2 \times 10^1)$

$6.75 \times 10^4 - 0.002 \times 10^4$

6.748×10^4

4. $(1.2 \times 10^{-3}) + (8.9 \times 10^{-3})$

10.1×10^{-3}

1.01×10^{-2}

5. $(9.99 \times 10^{-2}) - (1.2 \times 10^{-3})$

$9.99 \times 10^{-2} - 0.12 \times 10^{-2}$

9.87×10^{-2}

6. $(4.3 \times 10^7) - (7.5 \times 10^5)$

$4.3 \times 10^7 - 0.075 \times 10^7$

4.225×10^7

7. $(2.345 \times 10^2) + (1.31 \times 10^0)$

$2.345 \times 10^2 + 0.0131 \times 10^2$

2.3581×10^2

8. $(7.5 \times 10^{-2}) - (2 \times 10^{-4})$

$7.5 \times 10^{-2} - 0.02 \times 10^{-2}$

7.48×10^{-2}

Multiplication
When numbers in scientific notation are multiplied, only the number is multiplied. The exponents are added.

$$(2.00 \times 10^3)(4.00 \times 10^4) = (2.00)(4.00) \times 10^{3+4}$$

$$= 8.00 \times 10^7$$

Division
When numbers in scientific notation are divided, only the number is divided. The exponents are subtracted.

$$\frac{9.60 \times 10^7}{1.60 \times 10^4} = \frac{9.60}{1.60} \times 10^{7-4}$$

$$= 6.00 \times 10^3$$

1. $(4 \times 10^2)(2.2 \times 10^5)$

8.8×10^7

2. $\dfrac{9 \times 10^{-4}}{3 \times 10^0}$

3×10^{-4}

3. $(6.02 \times 10^7)(2 \times 10^{-1})$

12.04×10^6

1.204×10^7

4. $\dfrac{1.4 \times 10^4}{2 \times 10^8}$

0.7×10^{-4}

7.0×10^{-5}

5. $(7 \times 10^{-3})(5 \times 10^{-10})$

35×10^{-13}

3.5×10^{-12}

6. $\dfrac{3.5 \times 10^{-5}}{7 \times 10^{-2}}$

0.5×10^{-3}

5×10^{-4}

7. $(4.1 \times 10^3)(5 \times 10^5)$

20.5×10^8

2.05×10^9

8. $\dfrac{6.6 \times 10^7}{3 \times 10^{-6}}$

2.2×10^{13}

9. $(2.5 \times 10^4)(4 \times 10^{-7})$

10×10^{-3}

1.0×10^{-2}

10. $\dfrac{4.6 \times 10^{-4}}{2.3 \times 10^0}$

2×10^{-4}