

THE GREAT DISCOVERY

OPERATIONS ~~AREA~~ IN SCIENTIFIC NOTATION (S.N.)

ADDING OR SUBTRACTING #S IN S.N.

Ex:

$$(5.74 \times 10^5) + (3.2 \times 10^3)$$

$$\begin{array}{r} 5.74000 \\ 3.200 \end{array}$$

$$\begin{array}{r} 574000 \\ + 3200 \\ \hline 577200. \end{array}$$

$$\boxed{5.772 \times 10^5}$$

Ex:

$$(2.79 \times 10^{-4}) - (8.7 \times 10^{-5})$$

$$\begin{array}{r} 0.000279 \\ 0.000087 \end{array}$$

$$\begin{array}{r} 0.000279 \\ - 0.000087 \\ \hline 0.000192 \end{array}$$

$$\boxed{1.92 \times 10^{-4}}$$

Ex:

$$0.0045 - 2.8 \times 10^{-4}$$

$$0.0045 - 0.00028$$

$$\begin{array}{r} 0.0045 \\ 0.00028 \end{array}$$

$$\boxed{4.22 \times 10^{-3}}$$

$$\begin{array}{r} 0.0045 \\ - 0.00028 \end{array}$$

$$\boxed{0.00422}$$

Ex:

$$(3.19 \times 10^5) + 7,700,000.$$

$$\begin{array}{r} 3.19000 \\ 7700000 \end{array}$$

$$\begin{array}{r} 1319000. \\ + 7700000 \end{array}$$

$$\boxed{8.019 \times 10^6}$$

$$\boxed{8,019,000}$$

MULTIPLYING & DIVIDING #s IN S.N.

Ex:) $(3.4 \times 10^{-5})(2.6 \times 10^3)$

$$3.4 \times 2.6 \times 10^{-5} \times 10^3$$
$$8.84 \times 10^{-5+3}$$
$$\boxed{8.84 \times 10^{-2}}$$

Ex:) $(1.6 \times 10^7)(9 \times 10^{-4})$

$$1.6 \times 9 \times 10^7 \times 10^{-4}$$
$$14.4 \times 10^{7+(-4)}$$
$$(14.4) \times 10^3$$
$$(1.44 \times 10^1) \times 10^3$$
$$\boxed{1.44 \times 10^4}$$

Ex:) $\frac{9.2 \times 10^{-3}}{2.5 \times 10^{-4}}$

$$\frac{9.2}{2.5} \times \frac{10^{-3}}{10^{-4}}$$
$$3.68 \times 10^{-3+(+4)}$$
$$\boxed{3.68 \times 10^1}$$

Ex:) $\frac{8.6 \times 10^5}{4 \times 10^5}$

$$\frac{8.6}{4} \times \frac{10^5}{10^5}$$
$$2.15 \times 10^{5-5}$$
$$\boxed{2.15 \times 10^0}$$

THE SPEED OF LIGHT IS 3×10^8 METERS PER SECOND. HOW FAR DOES LIGHT TRAVEL IN AN HOUR?

CONVERSION FACTORS: $\frac{60 \text{ SEC}}{1 \text{ MIN}}$ & $\frac{60 \text{ MIN}}{1 \text{ HR}}$

"PER" → $\frac{3 \times 10^8 \text{ M}}{1 \text{ SEC}} \times \frac{60 \text{ SEC}}{1 \text{ MIN}} \times \frac{60 \text{ MIN}}{1 \text{ HR}}$

$$\frac{3 \times 60 \times 60 \times 10^8 \text{ M}}{1 \times 1 \times 1 \text{ HR}}$$

$$\frac{10800 \times 10^8 \text{ M}}{1 \text{ HR}}$$

$$\frac{1.08 \times 10^4 \times 10^8 \text{ M}}{\text{HR}}$$

$$\frac{1.08 \times 10^{12} \text{ M}}{\text{HR}}$$

IT TRAVELS
 $1.08 \times 10^{12} \text{ M.}$