

Scientific Notation

- really big numbers / small
- significant digits

$$1 \leq n < 10 \times 10^n$$

1. $15690 = 1.5690 \times 10^4$
 2. $12000 = 1.2 \times 10^4$
 3. $0.0345 = 3.45 \times 10^{-2}$
 4. $0.00890 = 8.90 \times 10^{-3}$
 5. $1.23 \times 10^6 = 1230000$
 6. $2.5 \times 10^{-3} = 0.0025$
 7. $1.54 \times 10^4 = 15400$
 8. $5.67 \times 10^{-1} = 0.567$
- $(6.02) \times 10^{23}$ $(2.5) \times 10^8$
not sci. not

Calculations

multiply
divide

$$\frac{6.6 \times 10^{-8}}{3.3 \times 10^{-4}} = 2.0 \times 10^{-4}$$

14. $(2.5 \times 10^{-6}) \times (3.0 \times 10^{-7}) = 7.5 \times 10^{-13}$

$\frac{66}{33} = 2$ $\frac{x^5}{x^2} = x^3$

add/subtract

$$13. (1.56 \times 10^{-7}) + (2.43 \times 10^{-8})$$

$$= 1.56 \times 10^{-7} + 0.243 \times 10^{-7}$$

$$= 1.803 \times 10^{-7}$$

$$\begin{array}{r} 1.56 \\ 0.243 \\ \hline 1.803 \end{array}$$

On your calculator: EE EXP

Do: $\frac{6.6 \times 10^{-8}}{3.3 \times 10^{-4}}$

$6.6 \text{ EE } -8 \div 3.3 \text{ EE } -4 = 0.0002$

$2 \text{ E } -4$

$\frac{6.6^{-08}}{3.3^{-08}} = 2^{-04} = 2^{-04}$

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