

Warm up

Convert to standard form:

1. 6×10^3
~~6000~~ = 6,000

4. 2.6×10^{-2}
0.026

2. 4×10^{-9}
0.00000004

5. 5.25×10^{10}
~~52500000000~~

3. 2×10^5
~~200000~~
200,000

6. 8.52×10^{-5}
0.0000852

Convert to Scientific Notation:

1. 50,000
 $5 \cdot 10^4$

4. 0.005
 $5 \cdot 10^{-3}$

2. 25,000,000
 $2.5 \cdot 10^7$

5. 0.00000033
 $3.3 \cdot 10^{-7}$

3. 68
 $6.8 \cdot 10^1$

6. 0.000506
 $5.06 \cdot 10^{-4}$

• Dimensional Analysis: Used to convert units from one form to another

↳ Conversion factor: ratio of two equivalent quantities expressed in different units

ex: $10\text{mm} = 1\text{cm}$
 $29\text{mm} = ?\text{cm}$
starting #

$$\frac{29\text{mm} \times \frac{1\text{cm}}{10\text{mm}}}{1} = 2.9\text{cm}$$

Conversion factor

ex2: $5,280\text{ft} = 1\text{mile}$
 $12\text{in} = 1\text{foot}$
 $5,400\text{in} = ?\text{miles}$
in → ft → miles

$$\frac{5,400\text{in} \times \frac{1\text{ft}}{12\text{in}} \times \frac{1\text{mi}}{5,280\text{ft}}}{1} = 0.085\text{miles}$$