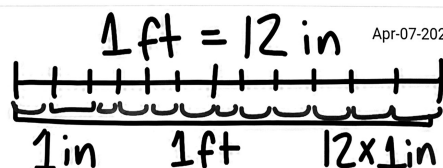


Unit Conversion Process

Form: Conv. A = Conv. B

$$\frac{\text{Conv. A}}{\text{Conv. B}} = \frac{\text{Conv. B}}{\text{Conv. A}} = 1$$

(Right Side of "T-Chart")



$$\frac{1 \text{ ft}}{12 \text{ in}} = \frac{12 \text{ in}}{1 \text{ ft}} = 1$$

$$\begin{array}{c|c} 36 \text{ in} \rightarrow \text{ft} & \text{(-} \rightarrow \text{convert)} \\ 36 \text{ in} & 1 \text{ ft} \\ \hline & 12 \text{ in} \end{array} = \frac{36 \times 1 \text{ ft}}{12} = 3 \text{ ft}$$

Ex: $12.84 \text{ LCH}_4 \rightarrow \text{mLCH}_4$

[Conv. Factor] $1 \text{ L} = 1000 \text{ mL}$

$$\begin{array}{c|c} \text{start A} & \text{conv. B} \\ 12.84 \text{ LCH}_4 & 1000 \text{ mLCH}_4 \\ \hline & 1 \text{ LCH}_4 \\ & \text{conv. A} \end{array} = \frac{12.84 \times 1000}{1} = 12840 \text{ mLCH}_4$$

Pressure Conversions

Units of Pressure

Standard atmosphere (atm)

Other millimeters Hg (mmHg)
inches Hg (inHg)
kilopascals (kPa)
pounds/sq.in (psi)

All conv. start with 1 atm

Conv. Factors

1 atm

760 mmHg (760 torr)

29.2 inHg

101.3 kPa (101315 Pa)

14.7 psi

Ex Pressure Conv.

910.6 mmHg $\rightarrow$ atm

$$\frac{910.6 \text{ mmHg}}{760 \text{ mmHg}} \times 1 \text{ atm} = \underline{1.20 \text{ atm}}$$

[1 atm = 760 mmHg = 101.3 kPa
= 760 torr = 14.7 psi]

40.0 psi $\rightarrow$ kPa

$$\frac{40.0 \text{ psi}}{14.7 \text{ psi}} \times 101.3 \text{ kPa} = \underline{275.65 \text{ kPa}}$$

<u>Temperature (T)</u> Speed (how fast) a particle travels in space	<u>Absolute Temp</u> The actual speed of a particle, where no movement is zero (0) on scale
<u>Absolute Temp Unit</u> Kelvin (K) is the abs. T unit: $1\text{K} = 1^{\circ}\text{C}$ Abs. Zero = $-273.15^{\circ}\text{C} = 0\text{K}$	<u>Absolute Zero</u> The point where all particle motion stops and nothing exists (matter destroyed)

<u>Temperature Conversions</u> $\text{K} = ^{\circ}\text{C} + 273.15$ $350.2^{\circ}\text{C} \rightarrow \text{K}$ $\text{K} = ^{\circ}\text{C} + 273.15$ $= 350.2^{\circ}\text{C} + 273.15$ $\text{K} = \underline{623.35\text{K}}$	$(\text{Abs Zero} = 0\text{K} = -273.15^{\circ}\text{C})$ $^{\circ}\text{C} = \text{K} - 273.15$ $310.2\text{K} \rightarrow ^{\circ}\text{C}$ $^{\circ}\text{C} = \text{K} - 273.15$ $= 310.2\text{K} - 273.15$ $^{\circ}\text{C} = \underline{37.05^{\circ}\text{C}}$
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