Unit Conversion (English to SI) and Some Important Constants
(A more comprehensive resource is the Converter TESTcalc or the Android app Engineering Unit Converter)

Length/Velocity:

1 ft = 0.3048 m; 1 in = 25.4 mm 1 mm = $1x10^{-3}$ m
1 mile = 1.61 km 1 mile (nautical) = 1.85 km
1 mile/hour = 0.447 m/s 1 km/hour = 0.2777 m/s

Volume/Flow Rate:

1 ft^3 = 0.02832 m^3 1 gal = 3.785 L 1 L = $1x10^{-3}$ m^3
1 in^3 = 16.387 mL 1 mL = $1x10^{-3}$ L 1 quart = 0.9464 L
1 ounce = 29.574 mL 1 pint = 0.473 L
1 ft^3/min(cfm) = $4.72x10^{-4}$ m^3/s 1 gal/hour=1.0514x10-6 m^3/s

Mass:

1 slug = 14.594 kg 1 lbm = 0.4536 kg 1 g = $1x10^{-3}$ kg
1 ounce = 28.35 g
1 Ton (long) = 1016 kg 1 Ton (short) = 2000 lbm = 907.1847 kg

Force:

1 lbf = 4.448 N 1 kgf = 9.81 N 1 N = $1x10^{-3}$ kN
1 Ounce-Force = 0.278 N 1 Dyne = 10 mN 1 KIP = 4.44.2 kN

Pressure:

1 psi = 6.895 kPa 1 bar = 100 kPa 1 inch of Hg = 3.374 kPa
1 inch of water = 0.2486 kPa 1 Torr = 1 mm of Hg 1 mm of Hg = 0.1333 kPa

Energy/Power:

1 Btu = 1.055 kJ 1 MJ = $1x10^3$ kJ 1 J = $1x10^{-3}$ kJ
1 erg = 1 mJ 1 Therm = 105.5 MJ 1 kWh = 3.6 MJ
1 Cal (food) = 4.187 kJ 1 calorie = 4.187 J 1 kilo-calorie = 4.187 kJ
1 Horsepower-hour = 2.6845 MJ 1 ft-lbf = 1.3558 J
1 Btu/ft^3 = 0.0373 MJ/m^3 1 Btu/lbm = 2.3258 kJ/kg 1 cal/g = 4.187 kJ/kg
1 Btu/hour = 0.2931 W 1 Horsepower = 0.7457 kW
1 Ton of Refrigeration = 3.517 kW

Temperature:

$T(\mathrm{K}) = T(^\circ\mathrm{C}) + 273$ $\Delta T(\mathrm{K}) = \Delta T(^\circ\mathrm{C})$ $T(^\circ\mathrm{F}) = 1.8T(^\circ\mathrm{C}) + 32$

$\Delta T(^\circ\mathrm{F}) = 1.8\Delta T(^\circ\mathrm{C})$ $T(\mathrm{R}) = 1.8T(\mathrm{K})$ $\Delta T(\mathrm{R}) = 1.8\Delta T(\mathrm{K})$

Specific Heat:

1 $\mathrm{J/(g\cdot{}^\circ C)}$ =1 $\mathrm{kJ/(kg\cdot{}^\circ C)}$ = 1 $\mathrm{kJ/(kg\cdot K)}$

1 $\mathrm{Btu/(lbm\cdot{}^\circ F)}$ =4.187 $\mathrm{kJ/(kg\cdot K)}$

1 $\mathrm{Btu/(lbm\cdot R)}$ = 4.187 $\mathrm{kJ/(kg\cdot K)}$

1 $\mathrm{Btu/(lbmol\cdot R)}$ = 4.187 $\mathrm{kJ/(kmol\cdot K)}$

Thermal Conductivity:

1 $\mathrm{W/(m\cdot{}^\circ C)}$ =1 $\mathrm{W/(m\cdot K)}$ = 1x10^{-3} $\mathrm{kW/(m\cdot K)}$

1 $\mathrm{Btu/(ft\cdot hr\cdot{}^\circ F)}$ = 1.7307 $\mathrm{W/(m\cdot K)}$

Absolute and Kinematic Viscosity:

1 Pa.s = 1 N.s/m^2 = 1 $\mathrm{kg/(s \cdot m)}$ (absolute)

1 poise = 0.1 Pa.s

1 $\mathrm{lbm/(ft \cdot s)}$ = 1.4882 Pa.s (absolute)

1 stoke = 100 m^2/s (kinematic)

----------Physical Constants----------

Quantity	**SI Unit**
Standard temperature	25°C (298K),
Standard pressure of air	101.325 kPa
g	9.81 m/s2,
$\bar{R}$	8.314 $\mathrm{kJ/(kmol \cdot K)}$
Boltzmann constant	1.380650×10^{-26} kJ/K
Avogadro constant	6.0221413×10^{26} per kmol
Stephan-Boltzmann constant	5.6704×10^{-11} $\mathrm{kW/(m^2 \cdot K^4)}$
Speed of light in vacuum	2.9979×10^{8} m/s
Speed of sound in dry air (1 atm, 0°C)	331.36 m/s
Density of air (STP)	1.185 kg/m^3
Density of water (STP)	997 kg/m^3
Kinematic viscosity of water (20°C)	1.002 Pa s
Heat of fusion of water (1 atm)	333.7 kJ/kg
Enthalpy of vaporization of water (1 atm)	2256.5 kJ/kg