Possibly useful relations:

$T(K) = T(^\circ C) + 273.15$ $\quad$ $T(^\circ F) = \frac{9}{5}T(^\circ C) + 32^\circ$

$\Delta L = \alpha L_0 \Delta T$ $\quad$ $\Delta V = \beta V_0 \Delta T$

$PV = nRT$ $\quad$ $PV = NkT$

$\overline{\mathrm{K}} = \frac{1}{2}m\overline{v^2} = \frac{3}{2}kT$ $\quad$ $v_{\mathrm{rms}} = \sqrt{\frac{3kT}{m}}$

$f(v) = 4\pi N(\frac{m}{2\pi kT})^{\frac{3}{2}}v^2 e^{-}(\frac{1}{2}mv^2/kT)$ $\quad$ $\Delta N = f(v)dv$

monoatomic: $E_{\mathrm{int}} = \frac{3}{2}nRT$

$Q = mc\Delta T$ $\quad$ $Q = \int_{T_1}^{T_2} mc\, dT$

$Q = mL_V$ $\quad$ $Q = mL_f$

$Q = \Delta E_{\mathrm{int}} + W$ $\quad$ $\mathrm{dW} = \mathrm{PdV}$

adiabatic: $PV^\gamma = \text{constant}$ $\quad$ $\gamma = C_P/C_V$

$\epsilon = \frac{|W|}{|Q_H|} = 1 - \frac{|Q_L|}{|Q_H|}$ $\quad$ $\epsilon_{\mathrm{Carnot}} = 1 - \frac{T_L}{T_H}$

$CP_{\mathrm{ref}} = \frac{Q_L}{W}$ $\quad$ $CP_{\mathrm{ref}}^{\mathrm{Carnot}} = T_L/(T_H - T_L)$

$CP_{\mathrm{hp}} = \frac{Q_H}{W}$ $\quad$ $CP_{\mathrm{hp}}^{\mathrm{Carnot}} = 1/(1 - T_L/T_H)$

$dS = \frac{dQ}{T}$ $\quad$ $\Delta S = \int(\frac{dQ}{T})_{\mathrm{reversible}}$

$\Delta S_{\mathrm{closed}} \geq 0$ $\quad$ $S = k \ln W$

$k = 1.38 \times 10^{-23}$ J/K $\quad$ $N_A = 6.022 \times 10^{23}$

$R = kN_A = 8.315$ J/mol $\cdot$ K $\quad$ $R = 0.0821$ atm $\cdot$ L/mol $\cdot$ K

one atmosphere $= 760$ mm Hg $= 10^5$ Pa $\quad$ 1 cal $= 4.186$ J

$\cos\theta =$ adjacent/hypotenuse $\quad$ $\sin\theta =$ opposite/hypotenuse

$\tan\theta = \sin\theta/\cos\theta$ $\quad$ $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$