

$$\begin{aligned}
G &= 6.67 \times 10^{-11} \text{ N} \cdot \text{m}^2/\text{kg}^2 \\
g &= 9.8 \text{ m/s}^2 \\
c &= 3.00 \times 10^8 \text{ m/s} \\
N_A &= 6.02 \times 10^{23} \text{ mol}^{-1} \\
m_e &= 9.11 \times 10^{-31} \text{ kg} \\
m_p &= 1.67 \times 10^{-27} \text{ kg} \\
1 \text{ mile} &= 5280 \text{ ft} \\
1 \text{ m} &= 3.28 \text{ ft} \\
1 \text{ lb} &= 4.45 \text{ N} \\
\frac{d}{dx} x &= 1 \\
\frac{d}{dx} (au) &= a \frac{du}{dx} \\
\frac{d}{dx} (u+v) &= \frac{du}{dx} + \frac{dv}{dx} \\
\frac{d}{dx} x^m &= mx^{m-1} \\
\frac{d}{dx} (uv) &= u \frac{dv}{dx} + v \frac{du}{dx} \\
\int dx &= x \\
\int au \, dx &= a \int u \, dx \\
\int (u+v) \, dx &= \int u \, dx + \int v \, dx \\
\int x^m \, dx &= \frac{x^{m+1}}{m+1} \quad (m \neq -1) \\
\Delta x &= x_2 - x_1 \\
\bar{v} &= \frac{\Delta x}{\Delta t} = \frac{x_2 - x_1}{t_2 - t_1} \\
\bar{s} &= \frac{\text{total distance}}{\Delta t} \\
v &= \frac{dx}{dt} \\
\bar{a} &= \frac{\Delta v}{\Delta t} = \frac{v_2 - v_1}{t_2 - t_1} \\
a &= \frac{dv}{dt} \\
v &= v_0 + at \\
x - x_0 &= v_0 t + \frac{1}{2} at^2 \\
v^2 &= v_0^2 + 2a(x - x_0) \\
x - x_0 &= \frac{1}{2} (v_0 + v) t \\
x - x_0 &= vt - \frac{1}{2} at^2 \\
a_x &= a \cos \theta \\
a_y &= a \sin \theta \\
a &= \sqrt{a_x^2 + a_y^2} \\
\tan \theta &= \frac{a_y}{a_x}
\end{aligned}$$