Physics Formula Sheet

$\vec{v_{av}} = \left(\frac{\vec{v_1}+\vec{v_2}}{2}\right)$	$\vec{v}_2 = \vec{v}_1 + \vec{a}\Delta t$	$\vec{\Delta d} = \left(\frac{\vec{v}_1+\vec{v}_2}{2}\right)\Delta t$	$\vec{\Delta d} = \vec{v_1}\Delta t + \frac{1}{2}\vec{a}$
$\vec{\Delta d} = \vec{v_2}\Delta t - \frac{1}{2}\vec{a}\Delta t^2$	$\vec{v_2}^{\,2} = \vec{v_1}^{\,2} + 2\vec{a}\vec{\Delta d}$	$\Delta t = \frac{2v_1 sin\theta}{g}$	$\Delta d_x = \frac{v_1^2 sin2\theta}{g}$
$\vec{v_{og}} = \vec{v_{om}} + \vec{v_{mg}}$	$F_g = mg$	$F_g = \frac{Gm_1m_2}{r^2}$	$T = 2\pi\sqrt{\frac{L}{g}}$
$\vec{F_{net}} = ma$	$F_f = \mu F_N$	$a_c = \frac{v^2}{r}$	$a_c = \frac{4\pi^2 r}{T^2}$
$a_c = 4\pi^2 r f^2$	$\frac{F_1}{F_2} = \frac{r_2^2}{r_1^2}$	$F_e = kx$	$E_e = \frac{1}{2}kx^2$
$W = \vec{F}\vec{\Delta d}$	$E_g = mgh$	$E_k = \frac{mv^2}{2}$	$W = \Delta E$
$W = E_{k2} - E_{k1}$	$W = E_{g2} - E_{g1}$	$P = \frac{W}{\Delta t} = \frac{\Delta E}{\Delta t}$	$E_t = E_t'$
$E_t = E_g + E_k + E_e + ...$	$E_\gamma = E_i - E_f(emission)$	$t_o = \frac{t}{\sqrt{1-\frac{v^2}{c^2}}}$	$L_o = \frac{L}{\sqrt{1-\frac{v^2}{c^2}}}$
$m = \frac{m_o}{\sqrt{1-\frac{v^2}{c^2}}}$	$E = mc^2$	$E_h = mc\Delta t$	$m_c c_c \Delta t_c = -m_h$
$L_f = \frac{E_h}{m}$	$L_v = \frac{E_h}{m}$	$E_k = \frac{p^2}{2m}$	$\vec{p} = m\vec{v}$
$W = \vec{F}cos\theta\vec{\Delta d}$	$\vec{F}\Delta t = \vec{\Delta p}$	$Eff. = \frac{Useful\ Energy\ Output}{Energy\ Input}x100\%$	$\vec{p} = \vec{p'}$