



ENGG103 Final Exam Sample Formulae

$E_{cl} = E_m V_m + E_f V_f$	$A_f = V_f A$ $A_m = V_m A$
$\frac{F_f}{F_m} = \frac{E_f V_f}{E_m V_m}$	$\Delta l = \alpha l_0 \Delta T$
$\sigma = \frac{1}{\rho}$	$\sigma = -E \alpha_l \Delta T$ $\sigma = E \alpha_l (T_o - T_f)$
$R = \frac{V}{I}$	$\rho = \frac{RA}{l}$
$P = \frac{V^2}{R}$	$\sigma = q n(\mu_n)$
$\sigma = q p(\mu_p)$	$\sigma = q n_i(\mu_n + \mu_e)$
$C = \left(\frac{Q}{m\Delta T} \right)$	$DP = \frac{\bar{M}}{m_a}$
$\bar{M}_n = \sum_i x_i M_i$	$r = d\sqrt{N}$ $L = Nd \cdot \sin\left(\frac{\theta}{2}\right)$
$\bar{M}_w = \sum_i w_i M_i$	$W_L = \frac{C_\alpha - C_0}{C_\alpha - C_L}$