OPERATION	FORMULA NAME	FORMULA
9 0 FMLA	Series resonance circuit	$Z_R = R$ $Z_X = 2\pi f L - \frac{1}{2\pi f C}$
9 1 FMLA	Parallel resonance circuit	$Y_R = \frac{1}{R}, Y_X = 2\pi f C - \frac{1}{2\pi f L}$
9 2 FMLA	Power factor	$\varphi = \cos^{-1}\frac{R}{Z}$
9 3 FMLA	Joule's law (1)	$P = RI^2$
9 4 FMLA	Joule's law (2)	$P = \frac{V^2}{R}$
9 5 FMLA	Induced electromotive force	$V_e = vB\ell$
9 6 FMLA	Voltage gain	$A_v = 20 \log \frac{V_2}{V_1}$
9 7 FMLA	Current gain	$A_i = 20 \log \frac{I_2}{I_1}$
9 8 FMLA	Power gain	$A_p = 10 \log \frac{P_2}{P_1}$
9 9 FMLA	Δ→Y conversion	$R_4 = \frac{R_1R_2}{R_1+R_2+R_3}$ $R_5 = \frac{R_2R_3}{R_1+R_2+R_3}$ $R_6 = \frac{R_3R_1}{R_1+R_2+R_3}$
1 0 0 FMLA	Y→Δ conversion	$R_1 = \frac{R_4R_5+R_5R_6+R_6R_4}{R_5}$ $R_2 = \frac{R_4R_5+R_5R_6+R_6R_4}{R_6}$ $R_3 = \frac{R_4R_5+R_5R_6+R_6R_4}{R_4}$
1 0 1 FMLA	Minimum loss matching	$R_1 = Z_0\sqrt{1-\frac{Z_1}{Z_0}}$ $R_2 = \frac{Z_1}{\sqrt{1-\frac{Z_1}{Z_0}}}$ $L_{min} = 20 \log\left(\sqrt{\frac{Z_0}{Z_1}} + \sqrt{\frac{Z_0}{Z_1}-1}\right)$
1 0 2 FMLA	Change in terminal voltage of R in RC series circuit	$V_R = V \cdot e^{-\frac{t}{CR}}$

STATISTICS

OPERATION	FORMULA NAME	FORMULA
1 0 3 FMLA	Probability function of binomial distribution	$P_x = {}_nC_x P^x (1-P)^{n-x}$
1 0 4 FMLA	Probability function of Poisson's distribution	$P_x = \frac{\mu^x e^{-\mu}}{x!}$
1 0 5 FMLA	Probability function of geometric distribution	$P_x = (1-P)^x P$
1 0 6 FMLA	Probability function of hypergeometric distribution	$P_x = \frac{{}_kC_x \cdot {}_{N-k}C_{N-x}}{{}_NC_n}$
1 0 7 FMLA	Probability function of exponential distribution	$y = \lambda e^{-\lambda x}$
1 0 8 FMLA	Probability function of uniform distribution	$y = \frac{1}{b-a}$
1 0 9 FMLA	Normal distribution (probability density function)	$y = \frac{1}{\sqrt{2\pi}\,\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$
1 1 0 FMLA	Normal probability function	$P(x) = \frac{1}{\sqrt{2\pi}} \int_x^{\infty} e^{-\frac{t^2}{2}} dt$ $Q(x) = \frac{1}{\sqrt{2\pi}} \int_0^{\lvert x \rvert} e^{-\frac{t^2}{2}} dt$
1 1 1 FMLA	Deviation	$y = \frac{x - x_A}{-\sigma} \times 10 + 50$

MECHANICS

OPERATION	FORMULA NAME	FORMULA
1 1 2 FMLA	Tension and compression	$\lambda = \frac{\sigma}{E}\ell$
1 1 3 FMLA	Shearing stress (1)	$\tau = \frac{P}{A}$
1 1 4 FMLA	Shearing stress (2)	$\tau = G\gamma$
1 1 5 FMLA	Enthalpy	$i = u + \frac{Pv}{J}$
1 1 6 FMLA	Efficiency of Carnot's cycle (1)	$\eta = \frac{Q_1 - Q_2}{Q_1}$
1 1 7 FMLA	Efficiency of Carnot's cycle (2)	$\eta = \frac{T_1 - T_2}{T_1}$
1 1 8 FMLA	Bernoulli's theorem (1)	$P_2 = P_1 + \gamma\left(\frac{v_1^2 - v_2^2}{2g} + Z_1 - Z_2\right)$