

INTERESTED IN MATH?

$$\begin{aligned}
 y * z &= \left[\frac{1}{2} (x + y - xy + 1) \right] * z = - \\
 + xy - xyz + z) + 1] &= \frac{1}{2} \left[\frac{1}{2} (x + y \right. \\
 y * z) &= x * \left[\frac{1}{2} (y + z - yz + 1) \right] = \\
 x(y + z - yz + 1) + 1] &= (x * y) * \\
 x * y &= \frac{1}{2} (x + y - xy + 1) \\
 = \int_{-a}^0 x^2 e^{ax} dx &= \frac{1}{a} (x^2 e^{ax}) \Big|_{-a}^0 - \frac{2}{a} \int_{-a}^0 \\
 -a^2 - \frac{2}{a} \left[\frac{1}{a} (x e^{ax}) \Big|_{-a}^0 - \frac{1}{a} \int_{-a}^0 e^{ax} dx \right] \\
 + \frac{2}{a^2} \left[\frac{1}{a} (e^{ax}) \Big|_{-a}^0 \right] &= -a e^{-a^2} - \frac{2}{a} e^{-a^2} \\
 = \frac{1}{a^3 e^{a^2}} [2e^{a^2} - 2 - 2a^2 - a^4]. \\
 Q_{\text{total}} = Q_1 + Q_2 &= 3\epsilon_0 \frac{S}{d_1} U_0
 \end{aligned}$$

$$\begin{aligned}
 I_R &= \frac{U}{R} = \frac{220}{17,32} = 12,7 \text{ A}, \\
 \frac{I_R}{\sqrt{I_R^2 + I_L^2}} &= \frac{R}{\sqrt{R^2 + L^2 \omega^2}} = \frac{17,32}{34,64} = \frac{1}{2}, \varphi = \\
 \omega_0 &= \frac{1}{C \omega_0} \Rightarrow v_0 = \frac{1}{2\pi \sqrt{LC}} = \frac{1}{2\pi \sqrt{\frac{X_L}{\omega} C}} \\
 - (x + t)I_2 + (xt - yz)I_2 &= 0. \\
 \begin{pmatrix} x & y \\ z & t \end{pmatrix} - \begin{pmatrix} x+t & 0 \\ 0 & x+t \end{pmatrix} &= \begin{pmatrix} -t & y \\ z & -x \end{pmatrix}. \\
 y) \begin{pmatrix} -t & y \\ z & -x \end{pmatrix} &= \begin{pmatrix} yz - xt & 0 \\ 0 & yz - tx \end{pmatrix} = \\
 yz - xt)I_2 = -(xt - yz)I_2, \\
 = p_2 V_2 \Rightarrow \frac{V_2}{V_1} &= \frac{p_1}{p_2}, \\
 = p_3 V_3 \Rightarrow p_2 = p_3 \left(\frac{V_3}{V_2} \right)^\gamma &\left. \vphantom{\frac{V_2}{V_1}} \right\} \Rightarrow \frac{V_2}{V_1} = \frac{p_1}{p_3} \left(\frac{V_3}{V_2} \right)^\gamma
 \end{aligned}$$

$$\begin{aligned}
 E_p &= E_{p_{\text{max}}} \Rightarrow \sin^2 \left(3t_p + \frac{\pi}{3} \right) = 1 \\
 &= \sin \left(\frac{\pi}{2} + n\pi \right); n = 0,1,2,\dots \\
 t_p &= \frac{\pi}{3} \left(n + \frac{1}{6} \right); n = 0,1,2,\dots \\
 E_c &= E_{c_{\text{max}}} \Rightarrow \cos^2 \left(3t_c + \frac{\pi}{3} \right) = 1 \Rightarrow \cos \left(3t_c + \frac{\pi}{3} \right) = \pm 1 = \cos(n\pi) \Rightarrow t_c = \frac{\pi}{3} \left(n - \frac{1}{3} \right) \\
 \frac{dx}{1+x^2} + \int \frac{x}{\sqrt{1+x^2}} dx &= J + \sqrt{1+x^2} \\
 - \int \frac{-\frac{dx}{x^2}}{\sqrt{\frac{1}{x^2} + 1}} &= - \int \frac{d\left(\frac{1}{x}\right)}{\sqrt{\frac{1}{x^2} + 1}} = \\
 I &= \sqrt{1+x^2} - \ln \frac{\sqrt{1+x^2} + 1}{x} + C \\
 -Q_{41} &= \nu C T_1 (1 - \epsilon^{1/2}) + \nu C_V T_1 (\mathcal{H} - 1), \\
 -Q_{34} &= \nu C_V T_2 (\mathcal{H} - 1) + \nu C T_4 (1 - \epsilon^{1/2}),
 \end{aligned}$$

Take a look at these career opportunities!

- [Mathematics Association of America](#)
- [Computer and Mathematical Occupations](#)
- [Society for Industrial and Applied Mathematics](#)