- Power Factor $PF = \frac{P}{|S|}$ where P is active power and S is apparent power `https://en.wikipedia.org/wiki/Power_factor`
- Power Factor w/ phase angle(PA) $PF = \cos(PA)$
- Power Consumed $V \times I \times PF$ where PF = Power Factor
- Impedance of capacitor(X_C) $X_c = \frac{1}{2 \times \pi \times f \times c}$ where f is frequency and C is capacitance in Farads
- Impedance of inductor(X_L) $X_L = 2 \times \pi \times f \times L where f is frequency and L is inductance in Farads$
- $P_{real} = I^2 \times R$
- $Q = \frac{P_X}{P_R}$
- $Q = \frac{f}{BW}$ where BW is ?
- Resonant frequency(f) $f = \frac{1}{2 \times \pi \sqrt{L \times C}}$ where f is frequency, L is inductance in Henrys and C is capacitance in farads
- $Z_{in}(\ell) = Z_0 \frac{Z_L + j \times Z_0 \tan(\beta \times \ell)}{Z_0 + j \times Z_L + \tan(\beta \times \ell)}$
- $\beta = \frac{2 \times \pi}{\lambda}$
- Shorted line $Z_L = 0$
- $G = \frac{R_F}{R_{in}}$
- $TC = R \times C$ where TC is time in seconds, R is ohms and C is Farads
- Phase angle $\theta = \frac{X_L - X_C}{R}$
- Time constant(τ): $\tau = R \times C$
- volatage at specifc time? $V(t) = E(e^{-t/\tau})$

https://en.wikipedia.org/wiki/Transmission$_l ine Input_i mpedance_o f_l ossless_t ransmission_l ine$