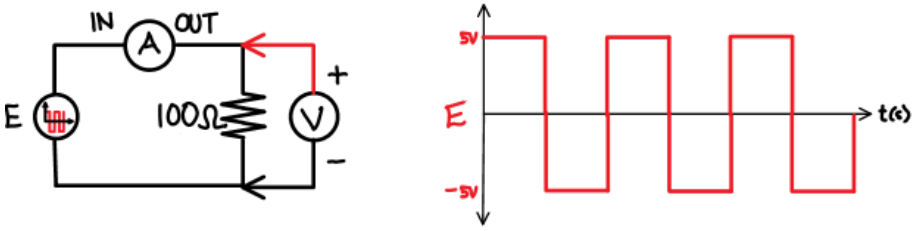
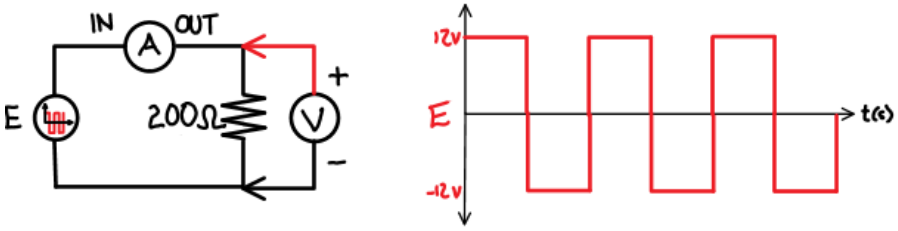
Introduction to AC Circuit Analysis (36:58)

Given a 5V source that cyclically alternates polarity every 1s as indicated draw a plot of the voltage drop across the resistor, current through it, and power dissipated by it.



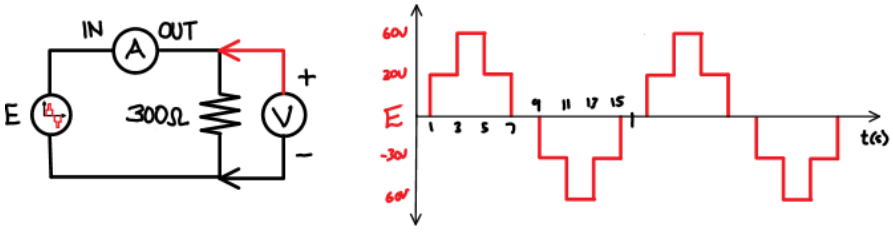
Given a 12V source that cyclically alternates polarity every 1s as indicated draw a plot of the voltage drop across the resistor, current through it, and power dissipated by it.



Describe the purely mathematical average of a source that cyclically alternates polarity.

Differentiate between average and effective values.

Given a source that cyclically alternates polarity and magnitude as indicated draw a plot of the voltage drop across the resistor, current through it, and power dissipated by it.



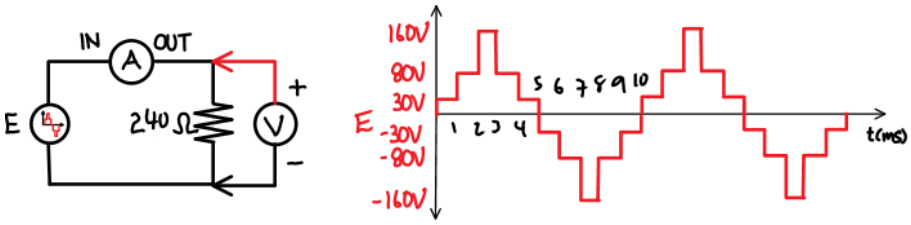
Determine the average power, effective voltage, and effective current experienced by the above load.

Differentiate between how the actual AC source and the idealized effective DC equivalent dissipates power.

Describe the effect of increasing frequency of the AC source on effective voltage and current values and average power dissipation.

Describe the unique characteristics of AC which often make it a more attractive option than DC.

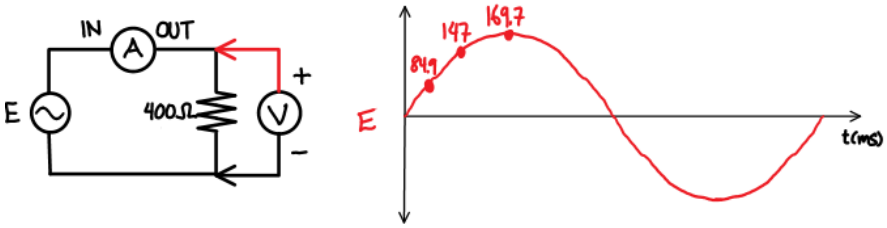
Given a source that cyclically alternates polarity and magnitude as indicated draw a plot of the voltage drop across the resistor, current through it, and power dissipated by it.



Determine the average power, effective voltage, and effective current experienced by the above load.

Describe the purpose of calculating effective voltage and current values for AC circuit analysis.

Given a source that alternates polarity and magnitude in a sinusoidal fashion as indicated draw a plot of the voltage drop across the resistor, current through it, and power dissipated by it.



Describe how voltage, current, and power behave for this purely resistive load.

Determine the average power, effective voltage, and effective current experienced by the above load.