**Parallel AC Circuits (18:38)**
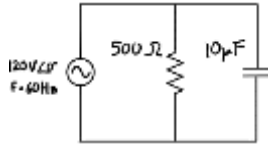
Identify the two formulas used to calculate total impedance of a parallel AC circuit.

Determine the total impedance of this parallel AC circuit.



Identify the most fundamental parallel AC circuit property.

Determine current through each element in the above circuit. Illustrate voltage and current on a phasor diagram. Determine the relative phase shift of current with respect to voltage for each element.

Describe Kirchhoff's Current Law and write the Kirchhoff's Current Law equation for the above parallel circuit. Identify the implications of Kirchhoff's Current Law when solving for instantaneous values, checking calculations, and solving for unknown currents.

Use Kirchhoff's Current Law to solve for source current for the above parallel circuit. Check this answer using Ohm's Law.

Discuss how the inclusion of a 950mH inductor in parallel with the original circuit affects the voltage and current for the original 2 elements. Discuss which properties this modification influences. Determine the voltage and current for the third impedance, the total impedance, and the source current.
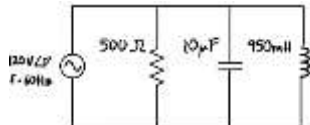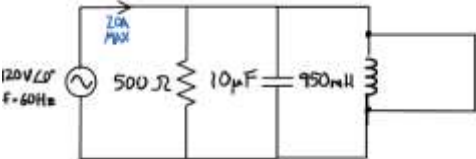


Compare and contrast current measurements for these two parallel AC circuits.
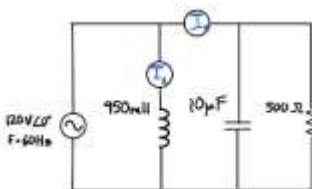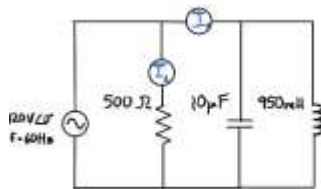
Identify the influence of shorts and opens in parallel AC circuits.

Determine the behavior of this parallel AC circuit including a short.



Determine the electrical properties of these parallel AC circuits including opens.