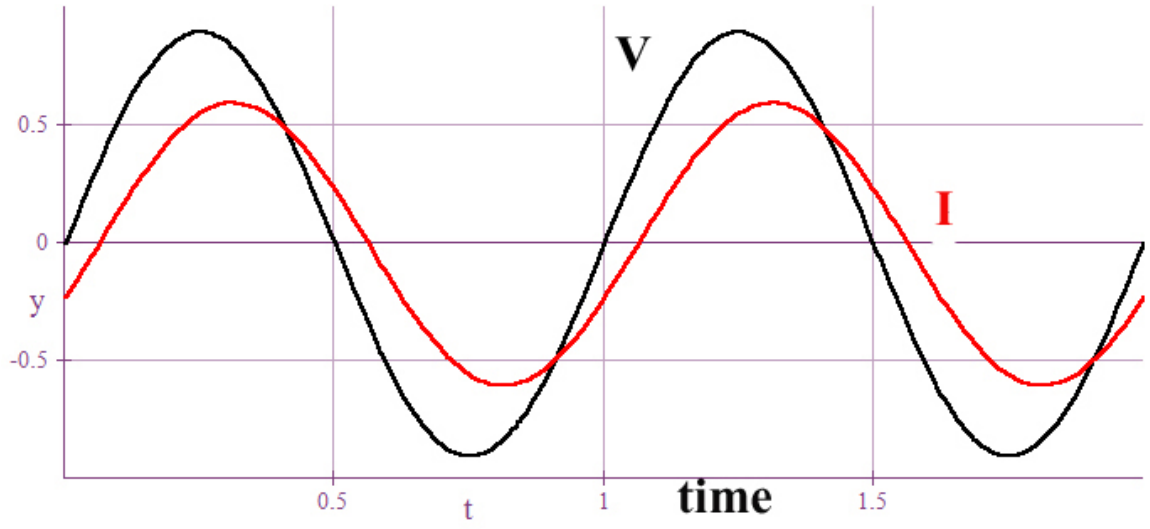
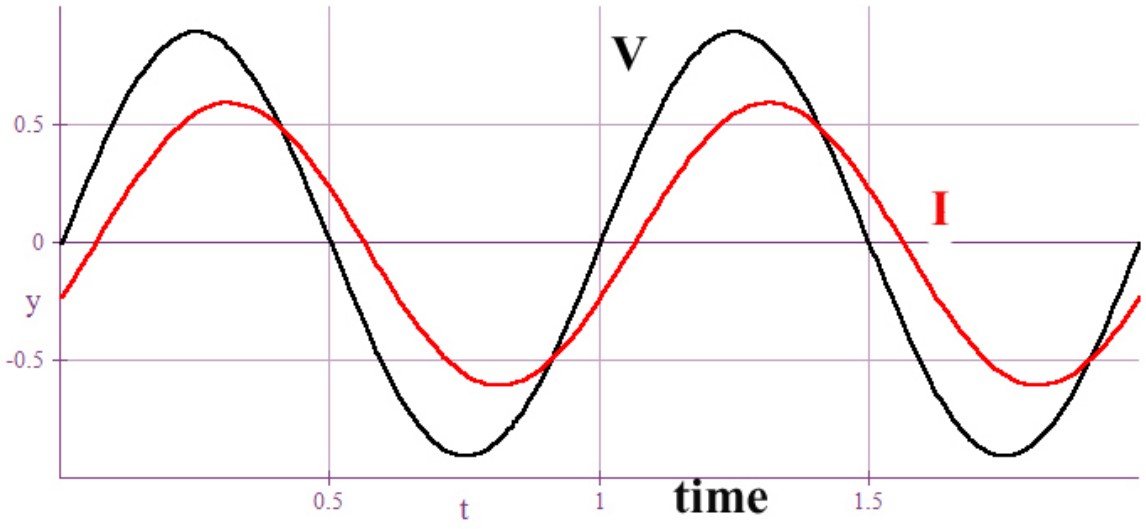


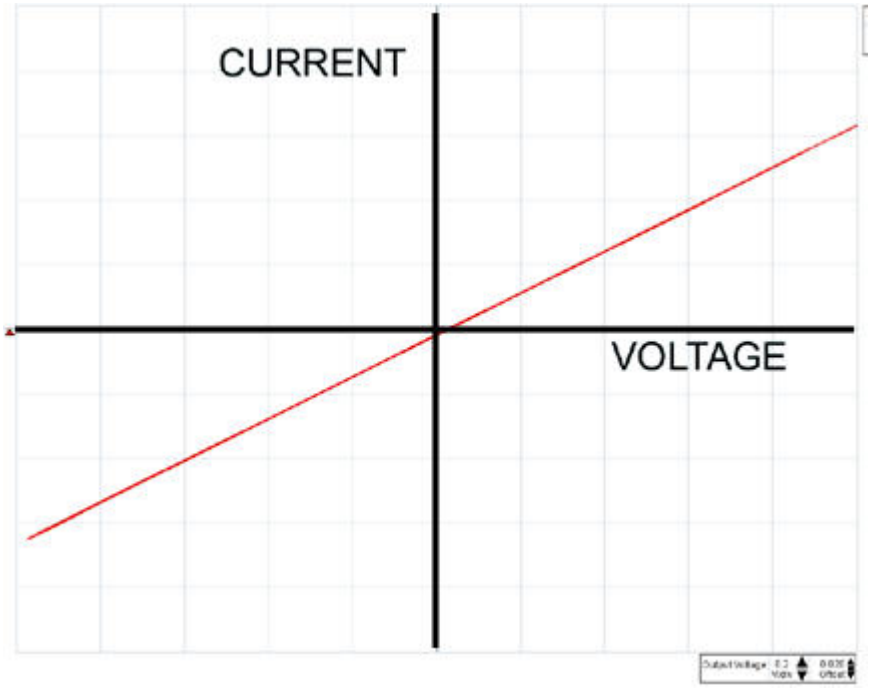
The plot shows the driving voltage V (black curve) and the current I (red curve) in a driven RLC circuit. In this circuit,

1. **The current leads the voltage**
2. **The current lags the voltage**
3. **Don't have a clue**



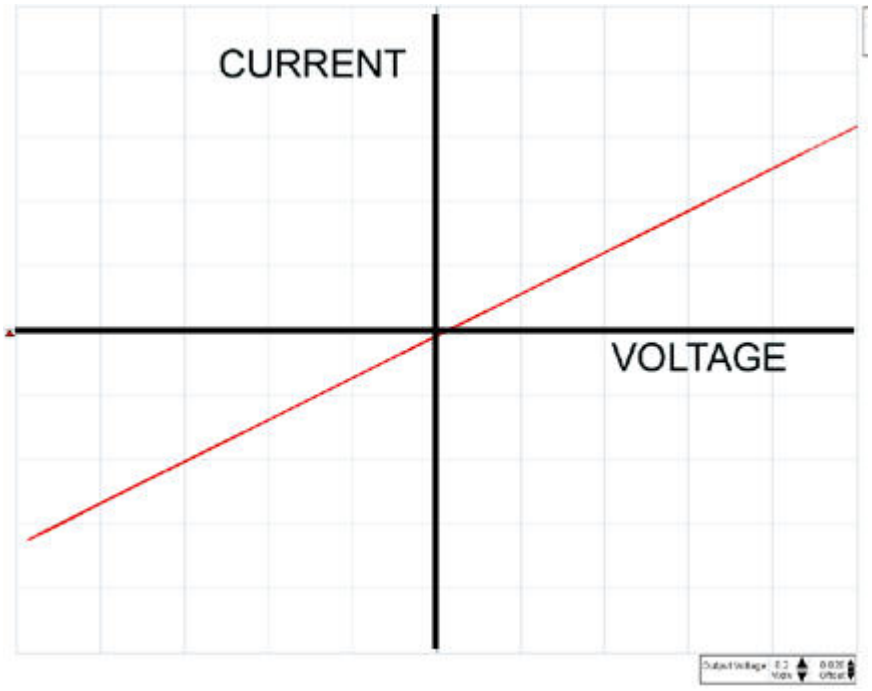
Answer: 2. The current lags the voltage.

The current peaks *after* the voltage peaks



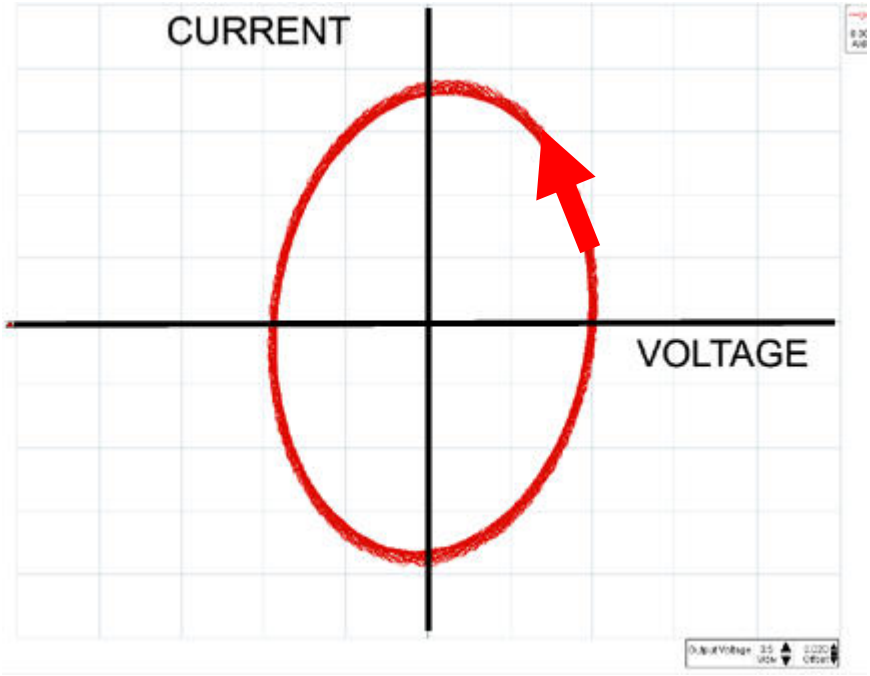
The graph shows the current versus the voltage in a driven RLC circuit at a given driving frequency. In this plot

1. **The current leads the voltage by about 45 degrees.**
2. **The current lags the voltage by about 45 degrees**
3. **The current and the voltage are in phase**
4. **Don’t have a clue.**



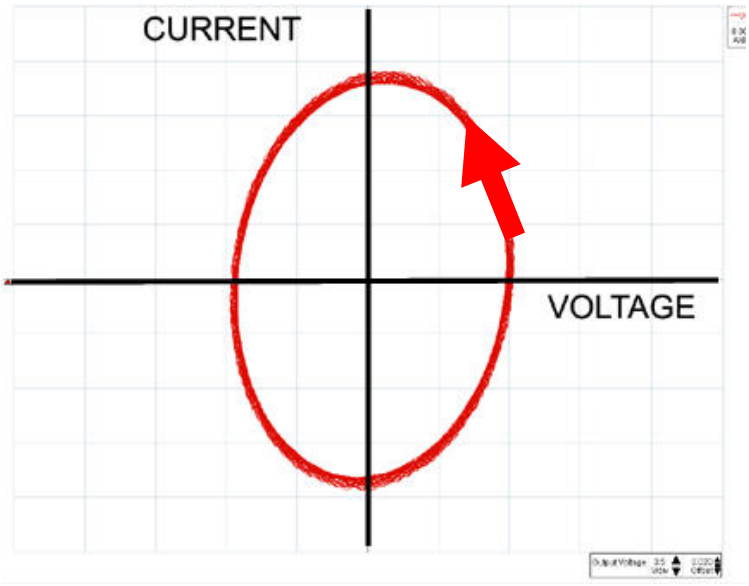
Answer: 3. They are in phase.

The current and the voltage reach a peak at exactly the same time, so they are exactly in phase.



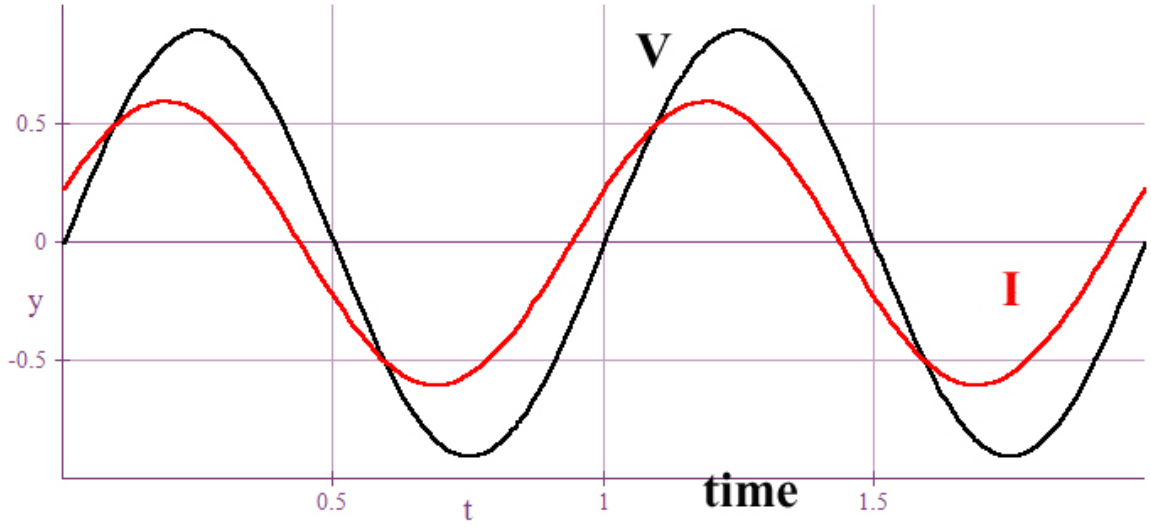
The graph shows the current versus the voltage in a driven RLC circuit at a given driving frequency. In this plot

1. **Current lags voltage by ~90º**
2. **Current leads voltage by ~90º**
3. **Current and voltage are almost in phase**
4. **We don't have enough information to say whether the current leads or lags (but they aren't in phase!)**



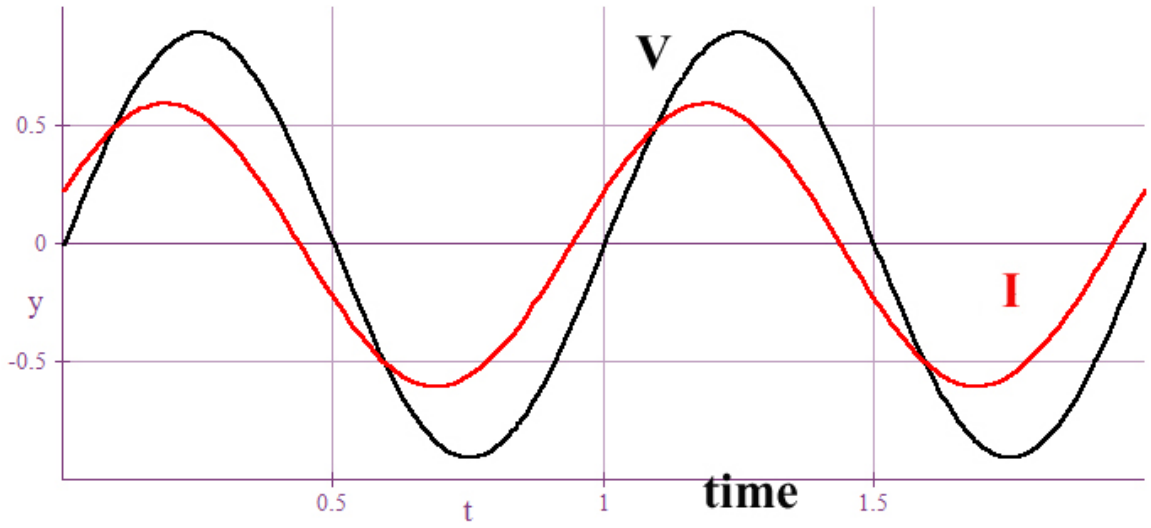
Answer: 1. Current lags.

Based on the direction in which the above loop is traced out, we see that the voltage peaks first, then the current, and so forth. The current lags.



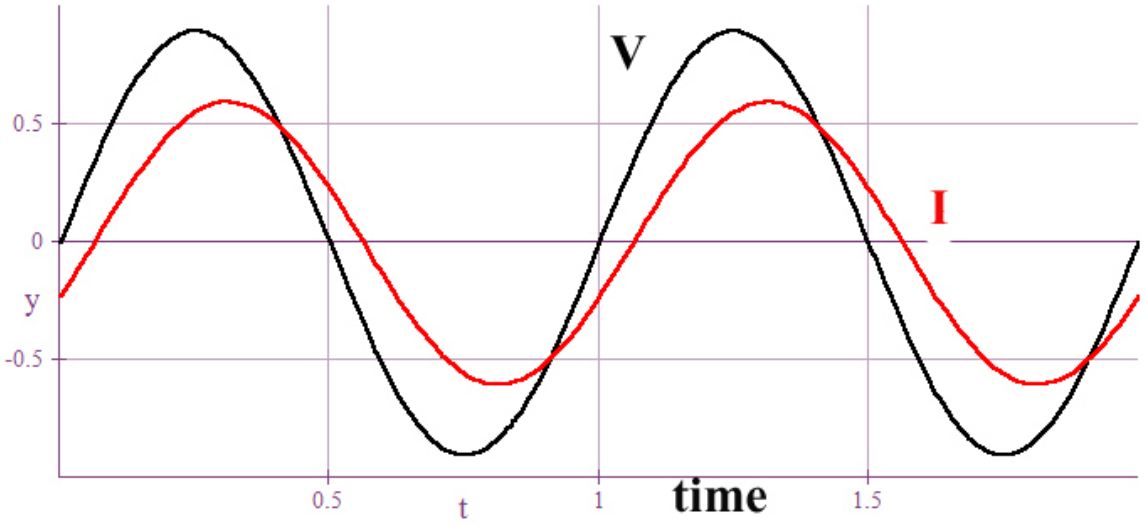
The graph shows the current versus the voltage in a driven RLC circuit at a particular driving frequency. At this frequency, the circuit is dominated by its

1. **Resistance**
2. **Inductance**
3. **Capacitance**
4. **Don't have a clue**



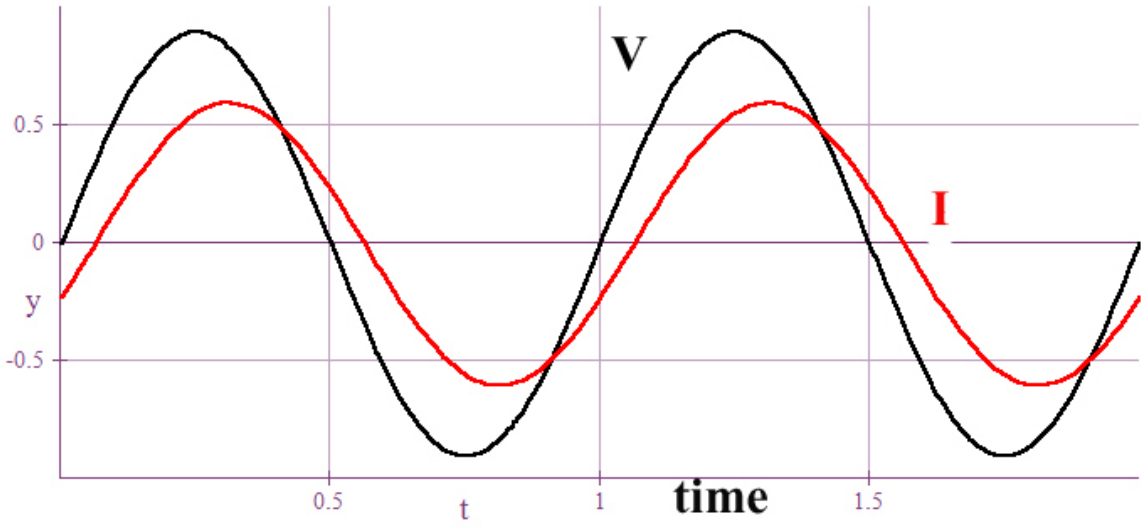
Answer: 3. Capacitance

The current leads the voltage, which is characteristic of an RLC circuit at a frequency dominated by its capacitance ($1/\omega C > \omega L$).



The graph shows the current versus the voltage in a driven RLC circuit at a particular driving frequency. Is this frequency above or below the resonance frequency of the circuit?

1. **Above the resonance frequency**
2. **Below the resonance frequency**
3. **Don't have a clue**



Answer: 1. Above the resonance frequency

The current lags the voltage. This means that $\omega L > 1/\omega C$. Thus the frequency satisfies $\omega^2 > 1/LC$