Consider the harmonically driven series LCR circuit shown.
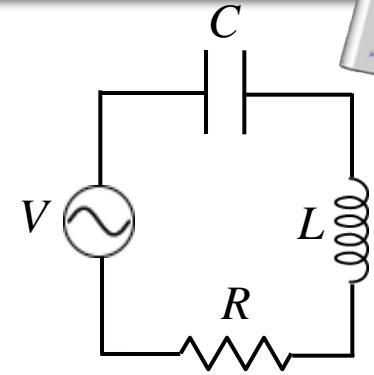$V_{max} = 100\ V$
$I_{max} = 2\ mA$
$V_{Cmax} = 113\ V\ (= 80\ sqrt(2))$
The current leads generator voltage by $45°$ (cos = sin = 1/sqrt(2))
L and R are unknown.

C

V

L
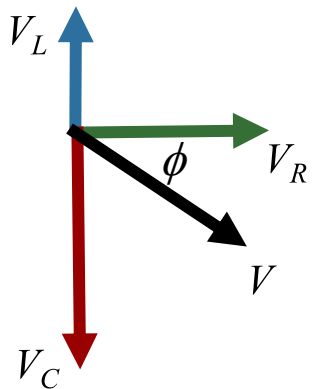
R

How should we change ω to bring circuit to resonance?

A) decrease ω B) increase ω C) Not enough info

Original ω

V_L

V_R

ϕ

V

V_C

At resonance
(ω_0)

V_L

V_R
V

V_C
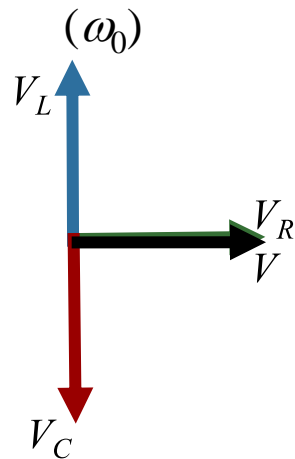
At resonance
$X_L = X_C$

X_L increases

X_C decreases ω increases