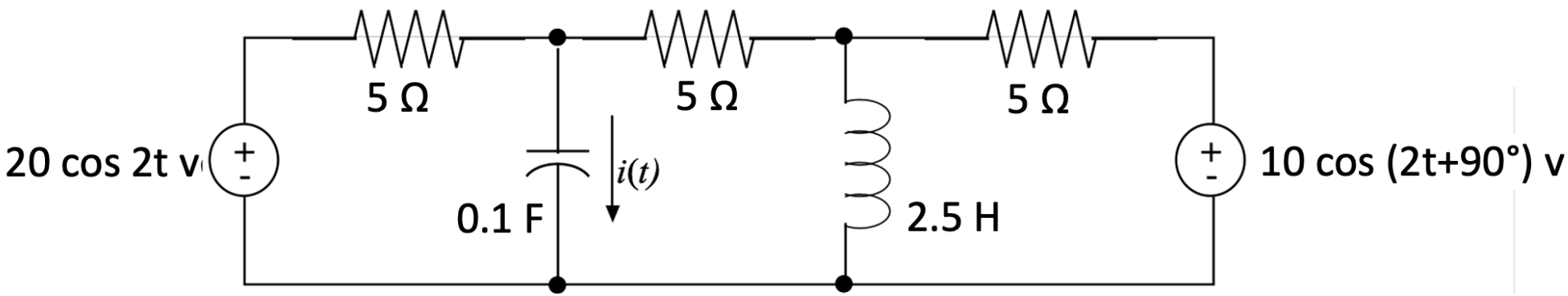
Phasors – 5

examples

What Now?

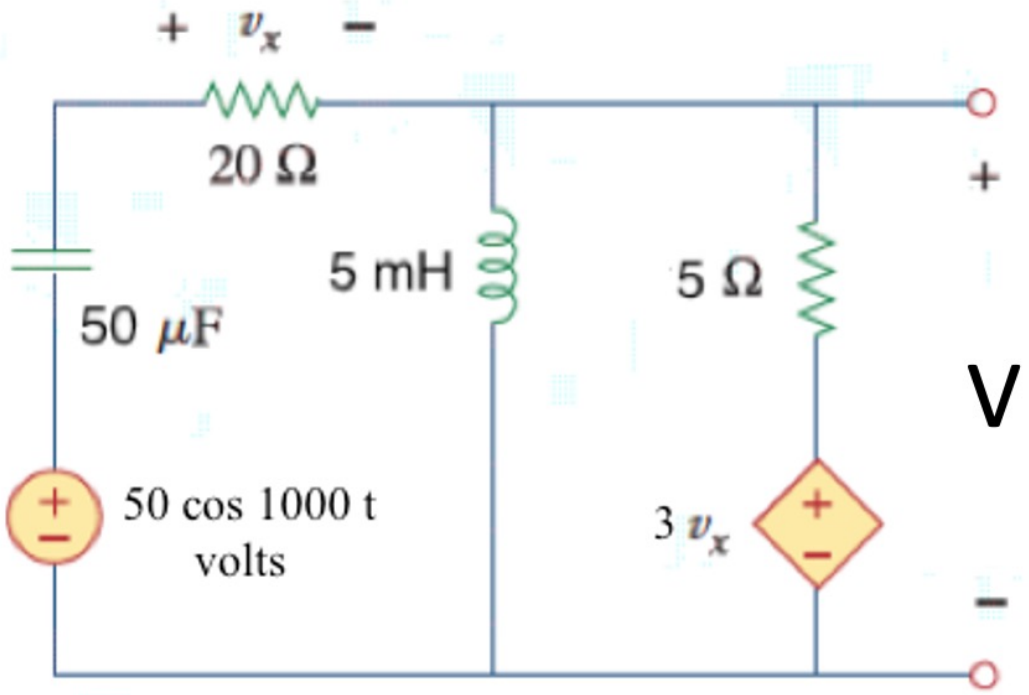
- Have used seen that voltage division, series and parallel impedance, and simple analysis all work with phasors
- Let's practice analysis methods
  - Node analysis
  - Dependent sources
  - Super nodes
  - …

Example: Find the current *i*(t).



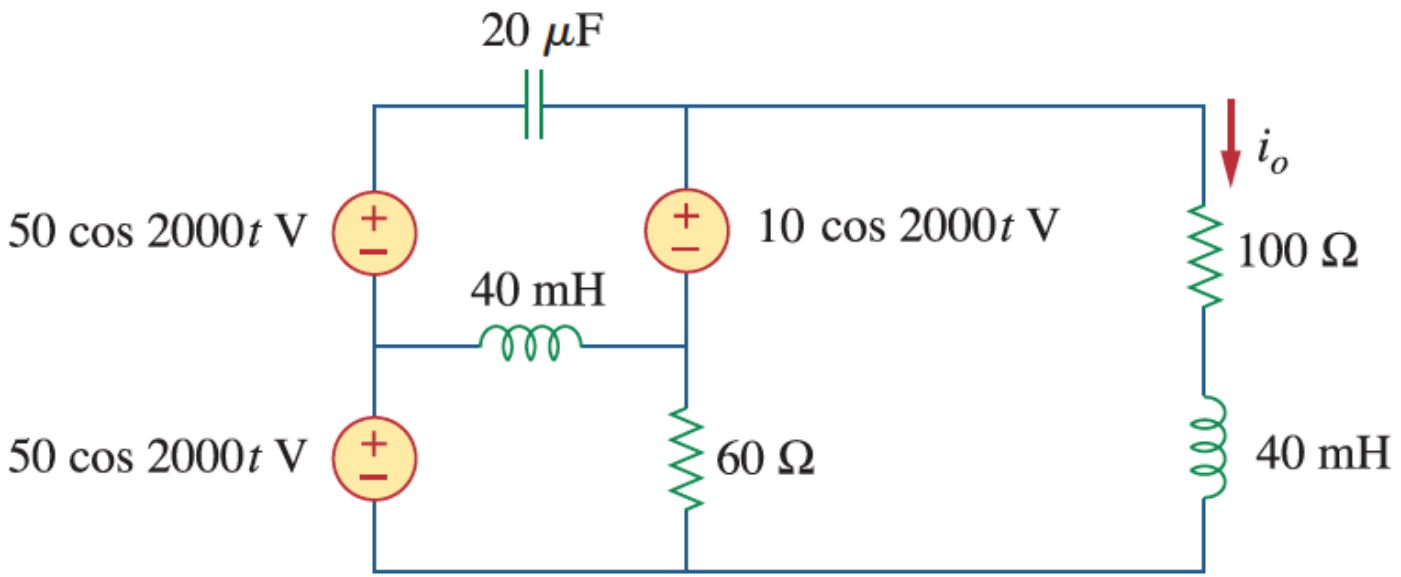
$1.12\cos(2t + 153°)\ A$

Example: Find V



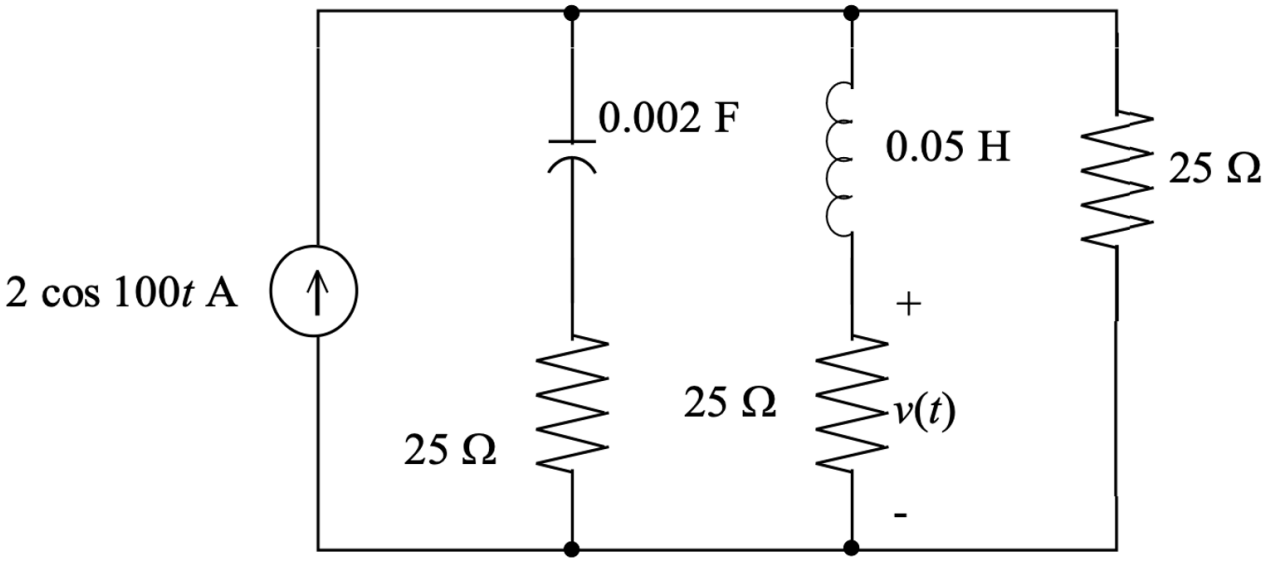
$42.6\cos(1000t + 31.6°)\ V$

Example: Find i_o



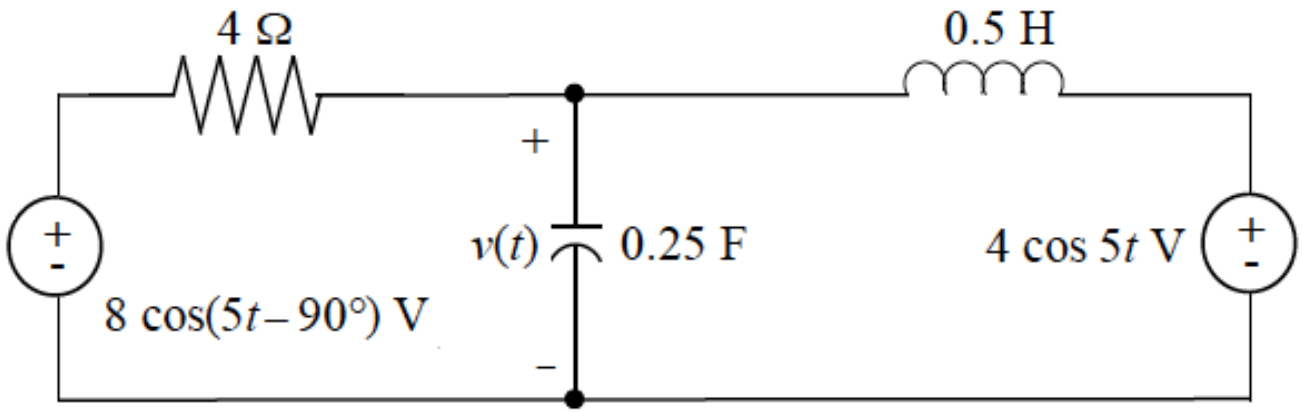
$822\cos(2000t + 3.69°)\ mA$

Example: Find $v(t)$



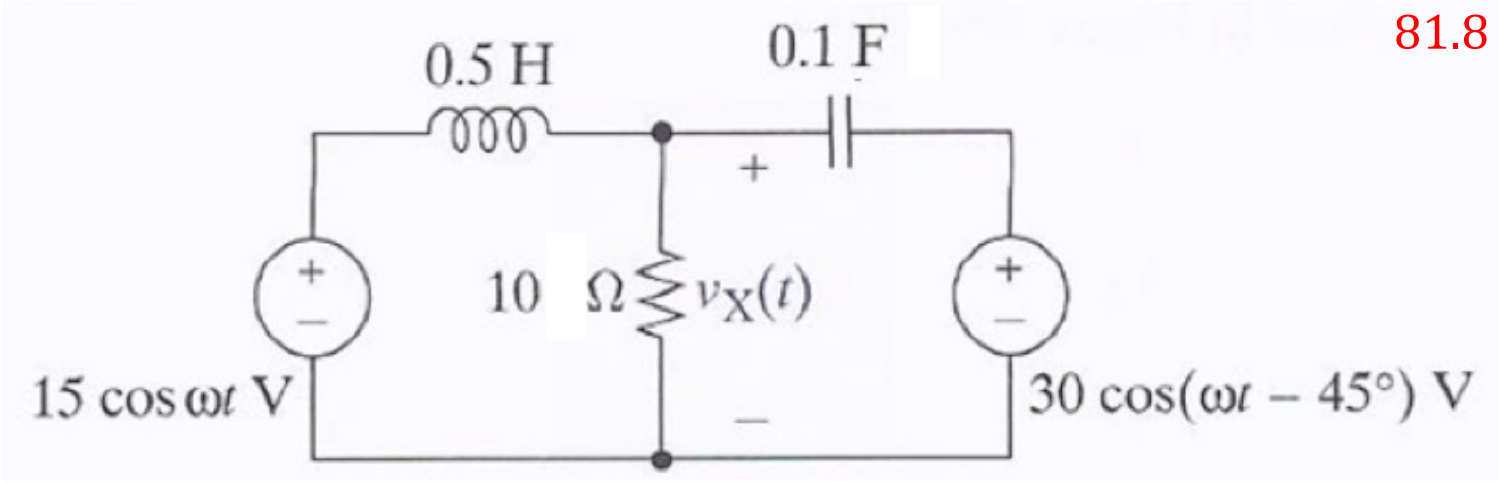
$16.8\cos(100t - 11.3°)\ V$

Example: find $v(t)$ – try node analysis



$4.06\cos(5t - 164°)\ V$

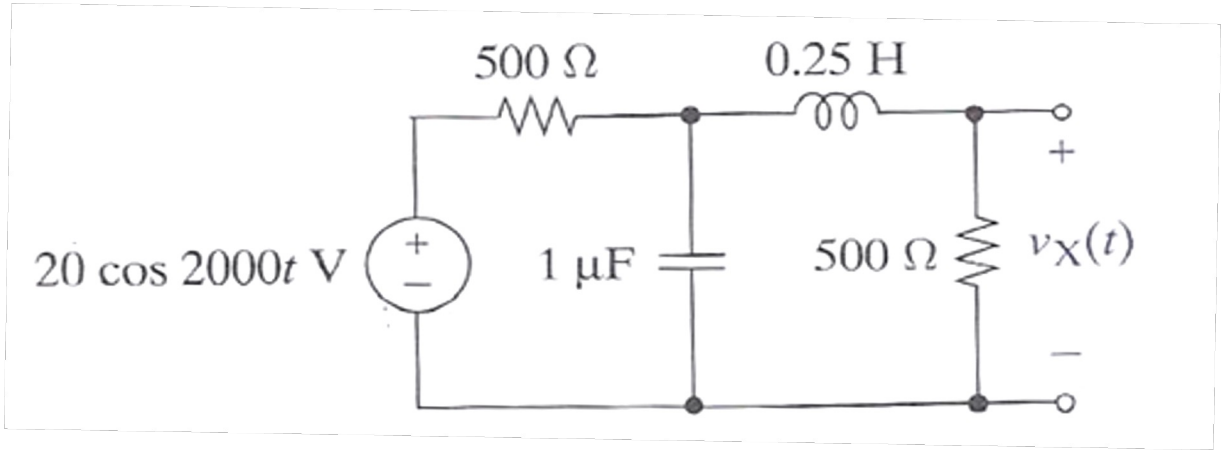
Practice problem: find $v(t)$ with $\omega = 5$ rad/sec



$81.8\cos(5t + 112°)$ V

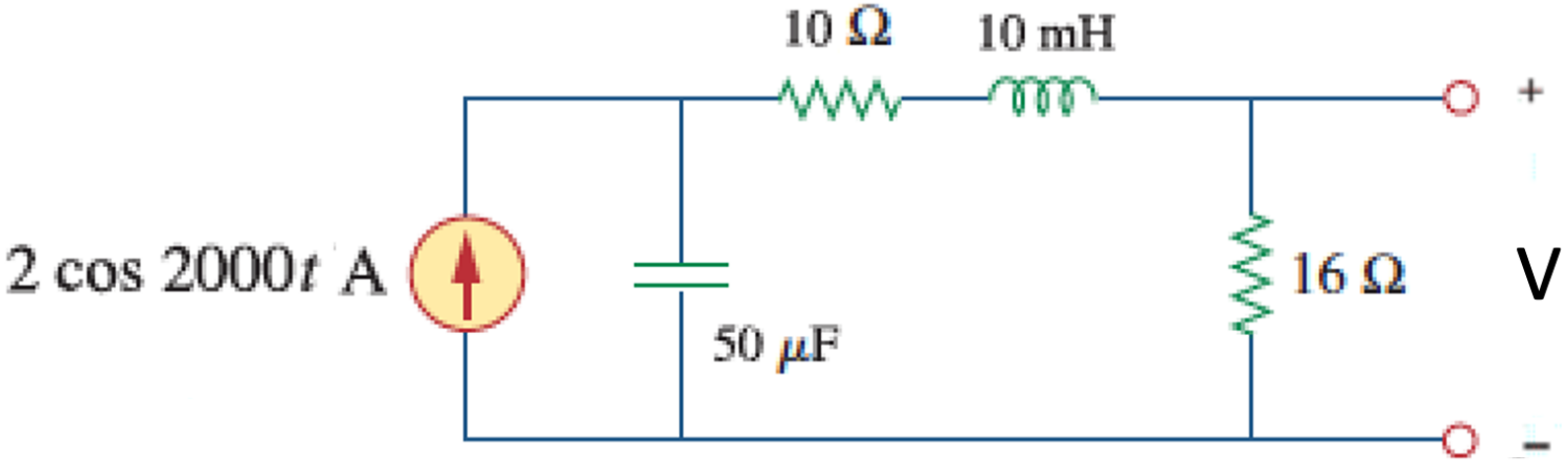
Practice problem: find $v_X(t)$

$6.67\cos(2000t - 90°)\ V$



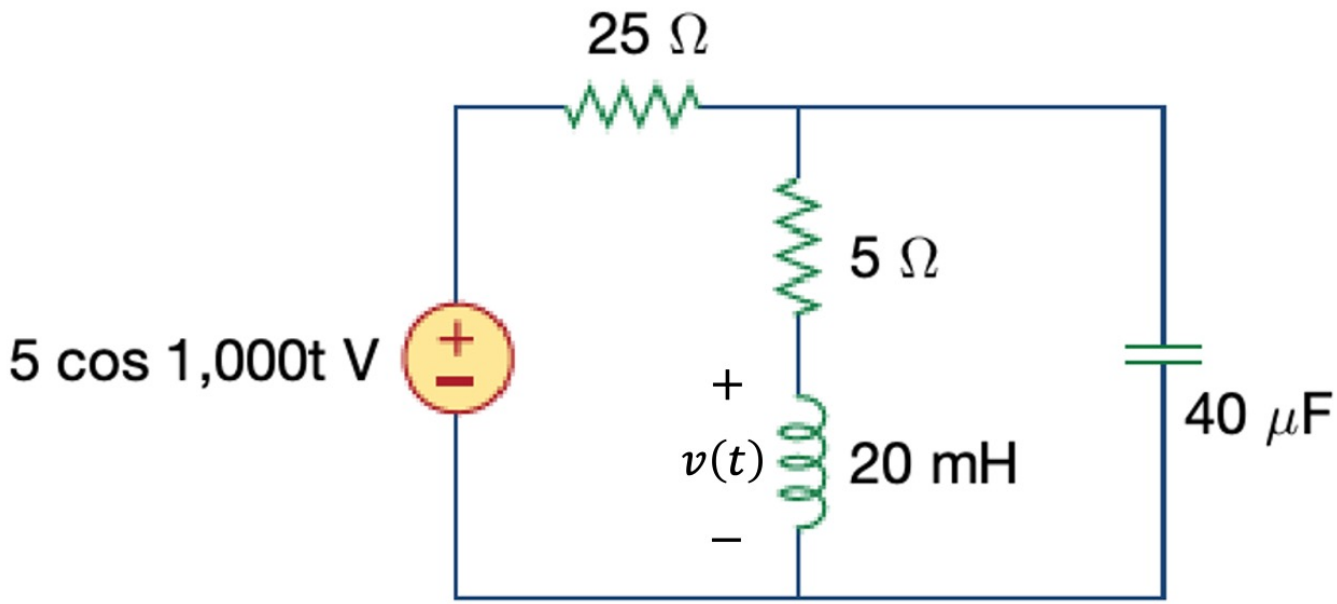
Practice problem: find $v(t)$

$13.8\cos(2000t - 115°)\ V$



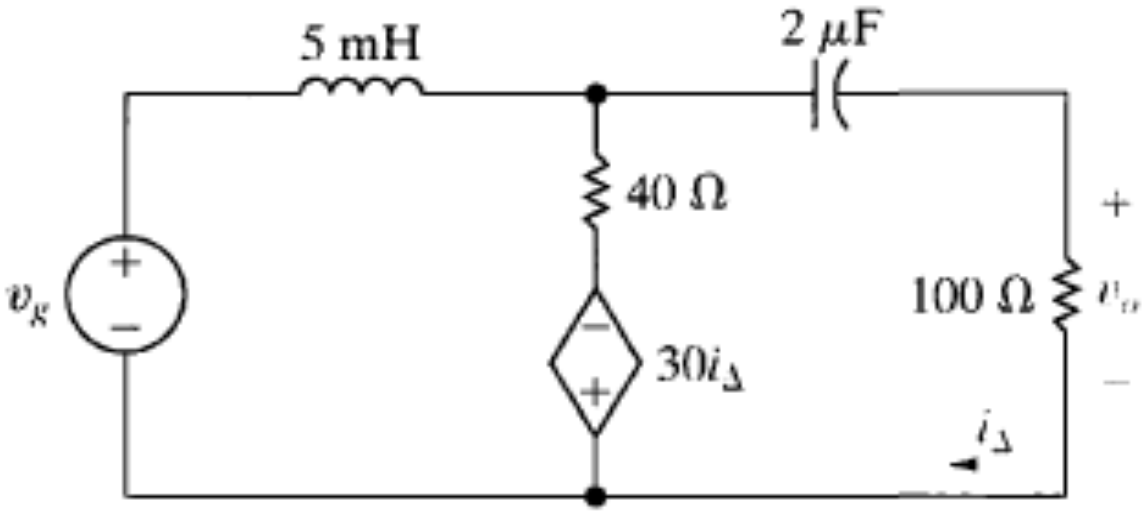
Practice problem: find $v(t)$

$3.71\cos(1000t + 21.8°)\ V$



Example: find $v(t)$ if $v_g(t) = 130 \cos 10{,}000\, t$ V,

f



$73.2 \cos(10{,}000t - 67.5°)\ V$