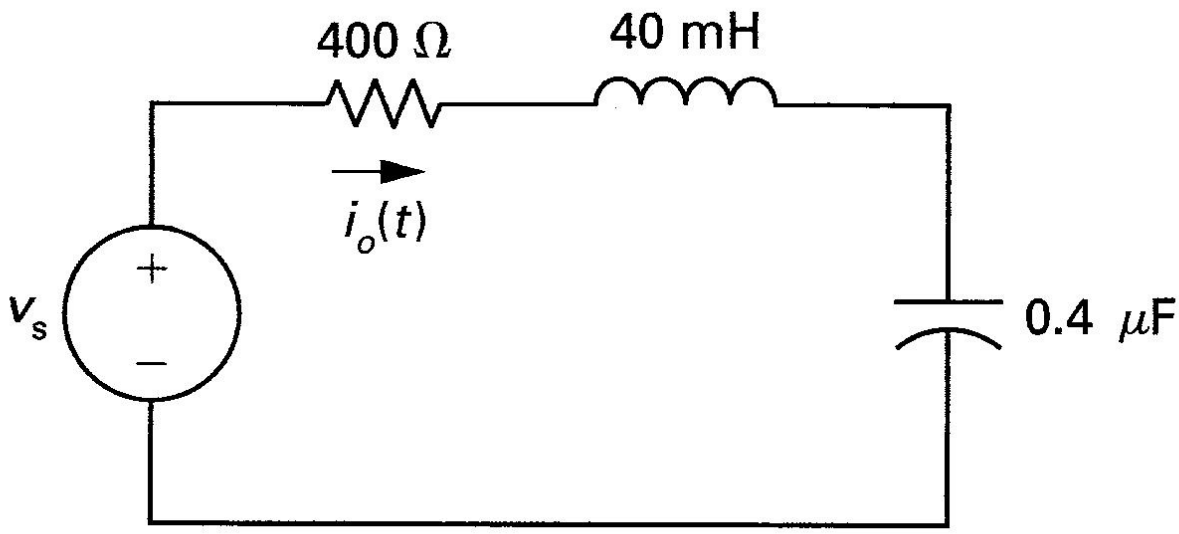
Started on	Thursday, 24 January 2019, 7:50 AM
State	Finished
Completed on	Friday, 1 February 2019, 4:32 PM
Time taken	8 days 8 hours
Grade	**90.83** out of 100.00

Question 1

Correct

Mark 10.00 out of 10.00



P9.14_6ed

Given: $v_s = 750 \cos(5{,}000t)$ V.

Find the time domain current $i_0(t)$.

$i_0(t)| =$ 1.5 ✓ cos(5,000 t + 36.87 ✓ °) A

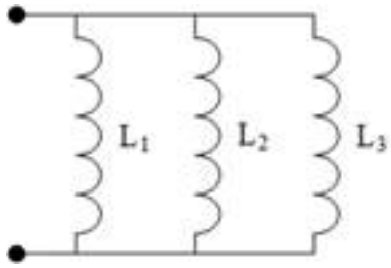
Correct

Marks for this submission: 10.00/10.00.

Question 2

Correct

Mark 6.67 out of 10.00



CQ9.11

Given:

L_1 = 8.5 mH (milli H) L_2 = 10.4 mH (milli H) L_3 = 15.2 mH (milli H)

The radian frequency of the driving source is 61047 rad/sec

Find the equivalent impedance of this parallel combination. Z_{Leq} = j ?? Ω (Ohms)

Answer: 218

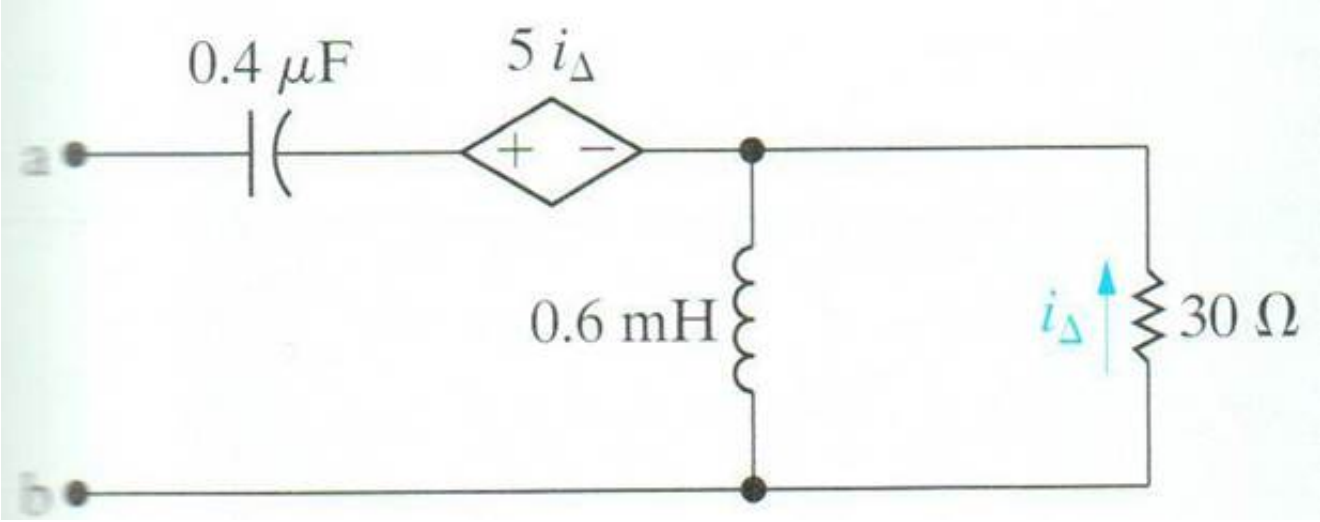
Correct

Marks for this submission: 10.00/10.00. Accounting for previous tries, this gives **6.67/10.00**.

Question 3

Correct

Mark 10.00 out of 10.00



Find the Thévenin impedance seen looking into the terminals ab of this circuit.

The frequency of operation is 100 krad/sec.

Z_{Th} = 20 ✓ + j -15 ✓ Ω (Ohm)

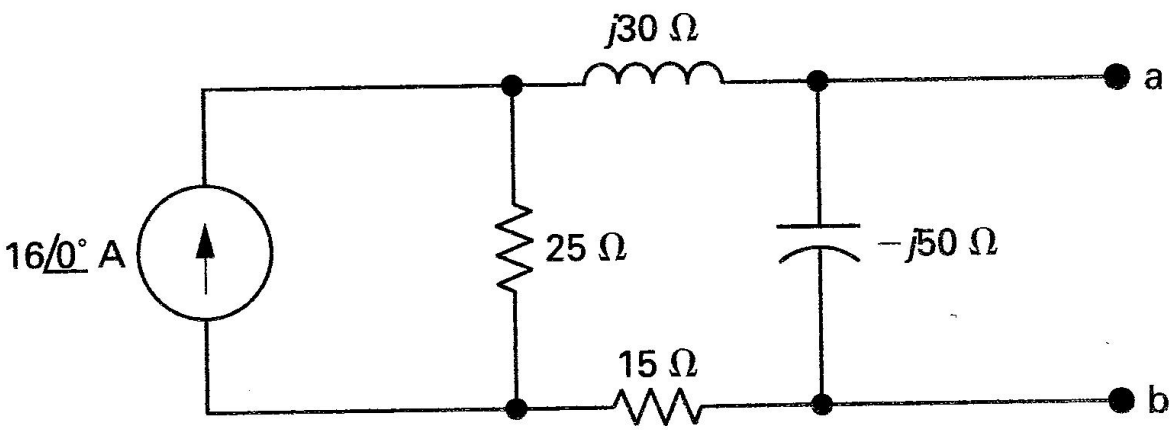
Correct

Marks for this submission: 10.00/10.00.

Question 4

Correct

Mark 10.00 out of 10.00



P9.39_6ed

Find the Norton equivalent circuit with respect to the terminals ab.

I_N = 6.4 ✓ + j -4.8 ✓ A in rectangular form

Z_{Th} = 50 ✓ + j -25 ✓ Ω (Ohm) in rectangular form

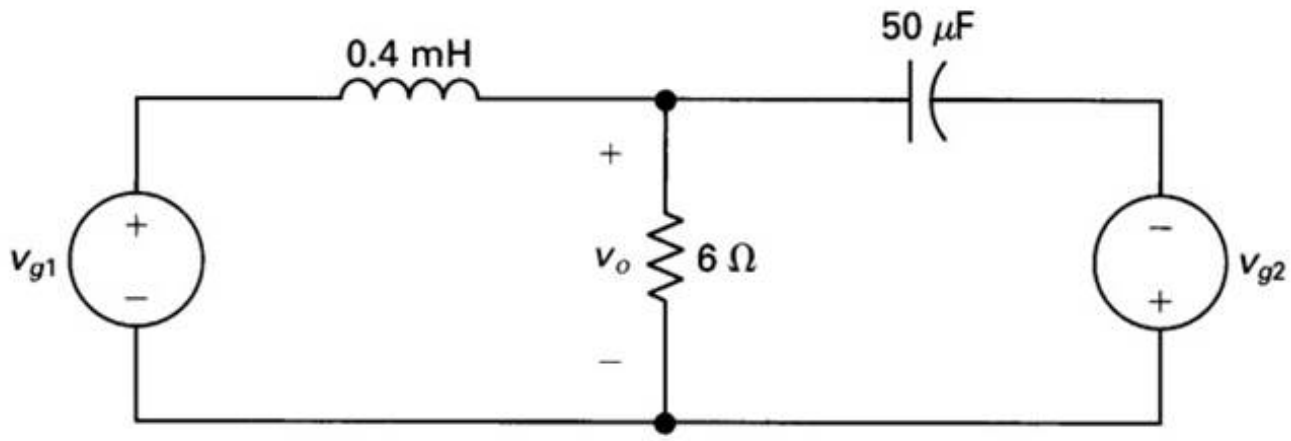
Correct

Marks for this submission: 10.00/10.00.

Question 5

Correct

Mark 10.00 out of 10.00



P9.49_6ed

Given:

$v_{g1} = 10 \cos(5{,}000\ t + 53.13°)$ V

$v_{g2} = 8 \sin(5{,}000\ t)$ V

Find the steady-state time domain expression for v_0 (t) of this circuit.

v_0 (t)= 12 ✓ cos(5,000t + .0001 ✓ °) (Degrees) Volts

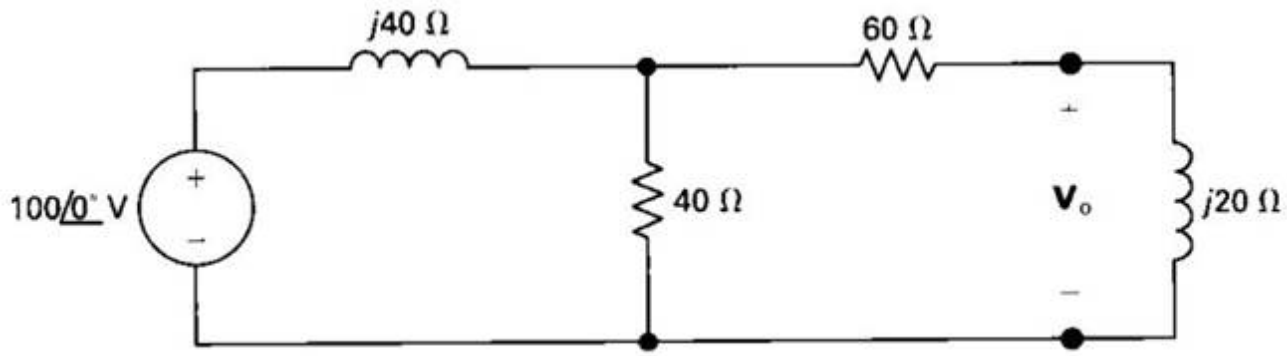
Correct

Marks for this submission: 10.00/10.00.

Question 6

Correct

Mark 10.00 out of 10.00



P9.47_6ed

Find $\mathbf{V_0}$ in this circuit.

$\mathbf{V_0}$ = Mag 15.8 with Angle 18.5 Degrees Volts

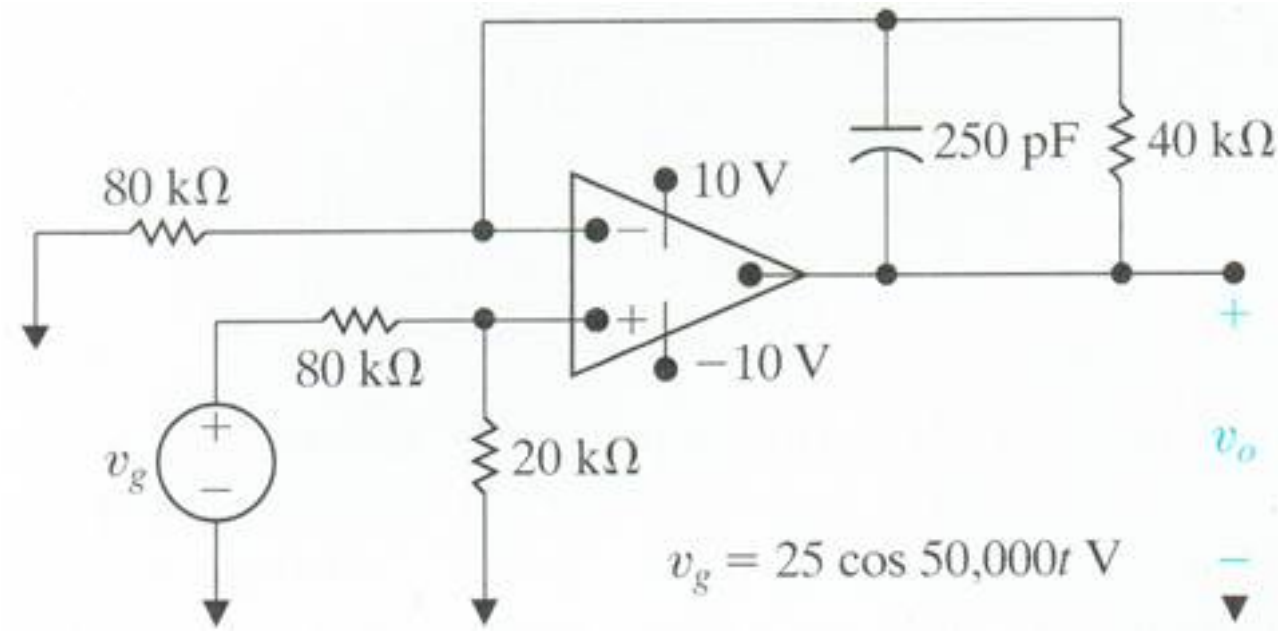
Correct

Marks for this submission: 10.00/10.00.

Question 7

Correct

Mark 6.67 out of 10.00



P9.81_7ed

The operational amplifier is ideal.

Given $v_g(t) = 25 \cos(50{,}000\ t)$ V

a) Find the steady-state output $v_0(t)$.

$v_0(t) =$ 7.07 ✓ $\cos(50{,}000\ t +$ -8.13 ✓ °) (Degrees)

Volts

b) How large can the amplitude of $v_g(t)$ be before the amplifier saturates?

$|\ v_0(t)_{max}\ | \leq$ 35.3 ✓ Volts (less than or equal to)

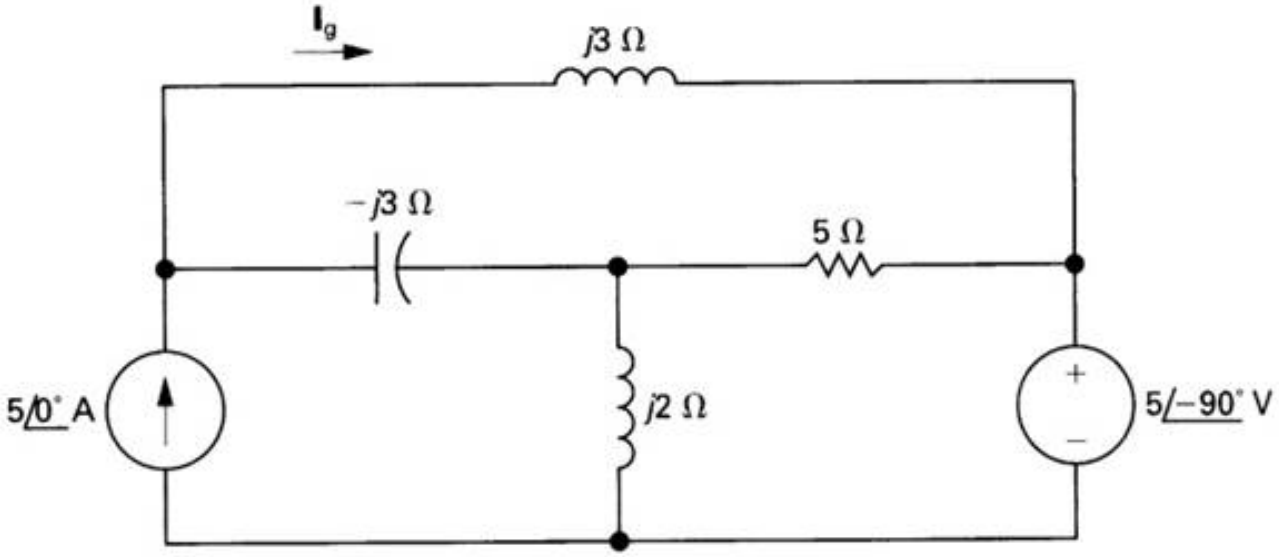
Correct

Marks for this submission: 10.00/10.00. Accounting for previous tries, this gives **6.67/10.00**.

Question 8

Correct

Mark 10.00 out of 10.00



P9.45_6ed

Use the mesh-current method to find $\mathbf{I}_g$.

$\mathbf{I}_g$ = 0 ✓ + j -3 ✓ A

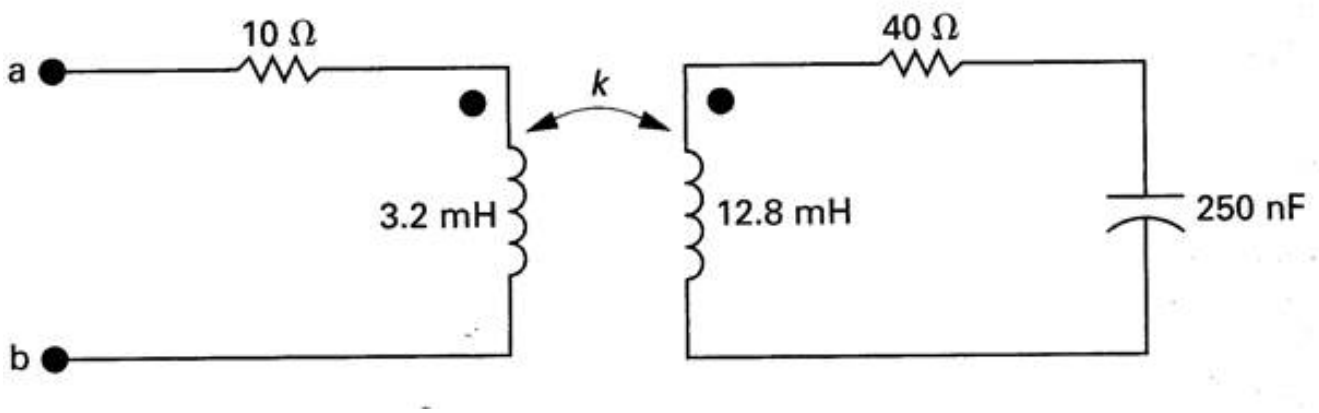
Correct

Marks for this submission: 10.00/10.00.

Question 9

Correct

Mark 10.00 out of 10.00



P9.63_6ed

Given driving source frequency = 25 krad/sec.

The coefficient of coupling *k* is adjusted so that Z_{ab} is purely resistive.

Find Z_{ab} for this condition.

Z_{ab} = 30 ✓ Ω (Ohm)

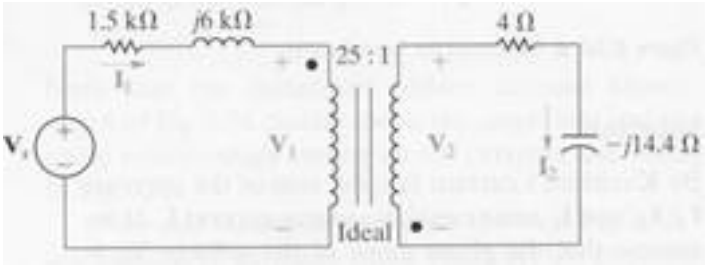
Correct

Marks for this submission: 10.00/10.00.

Question 10

Correct

Mark 7.50 out of 10.00



AP9.15_9ed

The source voltage is 25 ∠0° kV (kilo Volts).

Find the amplitude and phase angle of $\mathbf{V}_2$ and $\mathbf{I}_2$.

$|\mathbf{V}_2|$ = 1868 Volts Phase angle $\mathbf{V}_2$ = 142 °

(Degrees)

$|\mathbf{I}_2|$ = 125 A Phase angle $\mathbf{I}_2$ = 217 ° (Degrees)

Correct

Marks for this submission: 10.00/10.00. Accounting for previous tries, this gives **7.50/10.00**.

◄ Homework 1 - Chapter 9

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Homework 3 - Chapter 10 ►