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Courses » Basic Electrical Circuits

Announcements Course Ask a Question Progress Mentor FAQ

Unit 4 - Week 2: Elements in series and parallel; Controlled sources

Course outline

How to access the portal

Pre-requisite Assignment

Week 1: Preliminaries; Current and voltage; Electrical elements and circuits; Kirchhoff's laws; Basic elements; Linearity

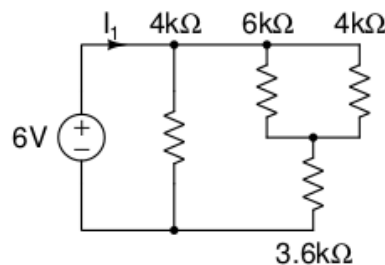
Week 2: Elements in series and parallel; Controlled sources

- Series connection- Voltage sources in series
- Series connection of R, L, C, current source
- Elements in parallel
- Current source in series with

Assignment 2

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. **Due on 2018-08-15, 23:59 IST.**

1) Determine the current I_1 in the figure below.



(The answer must be in milliamperes (mA). Round off fractional answers to one decimal place.)

Hint

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) 2.5

1 point

2)



A project of



In association with



Funded by

- Summary
- Voltage controlled voltage source(VCVS)
- Voltage controlled current source(VCCS)
- Current controlled voltage source(CCVS)
- Current controlled current source(CCCS)
- Realizing a resistance using a VCCS or CCCS
- Scaling an element's value using controlled sources
- Example calculation

Quiz : Assignment 2

Week 2 - Feedback: Basic Electrical Circuits

Week 3: Power and energy in electrical elements; Circuit analysis methods

Week 4: Nodal analysis

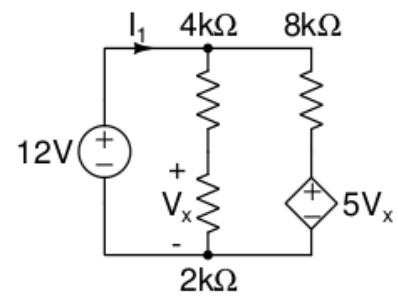
Week 5 : Mesh analysis; Circuit theorems

Week 6: More circuit theorems; Two port parameters

Week 7: Two port parameters continued; Reciprocity in resistive networks

Week 8: Opamp and negative

Determine the current I_1 in the figure below.



(The answer must be in milliamperes (mA). Round off fractional answers to one decimal place.)

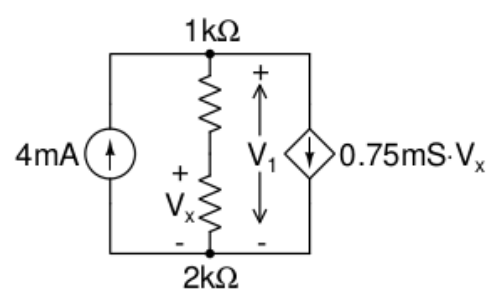
No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 1

1 point

3)

Determine the voltage V_1 in the figure below.



(The answer must be in volts (V). Round off fractional answers to one decimal place.)

Hint

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 4.8

1 point

4)

feedback;
Example circuits
and additional
topics

Week 9 :First
Order Circuits

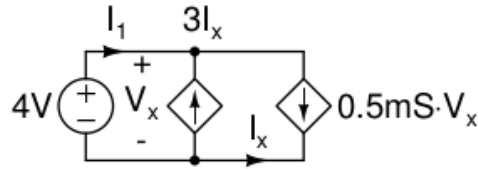
Week 10 : First
order circuits
with
time-varying
inputs

Week 11:
Second order
system
response

Week 12: Direct
calculation of
steady state
response from
equivalent
components

Video Download

Determine the current I_1 in the figure below.



(The answer must be in **milliamperes (mA)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

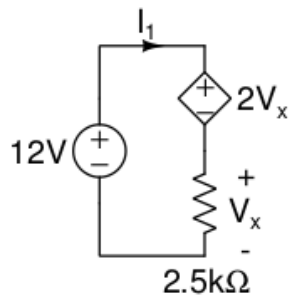
Accepted Answers:

(Type: Numeric) 8

1 point

5)

Determine the current I_1 in the figure below.



(The answer must be in **milliamperes (mA)**. Round off fractional answers to one decimal place.)

Hint

No, the answer is incorrect.

Score: 0

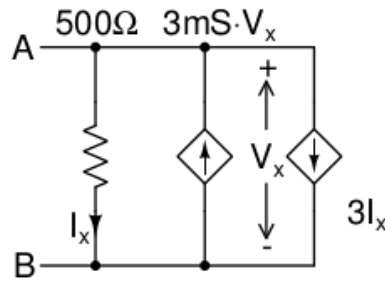
Accepted Answers:

(Type: Numeric) 1.6

1 point

6)

In the figure below, determine the equivalent resistance between A and B.



(The answer must be in **kilohms (kΩ)**. Round off fractional answers to one decimal place.)

Hint

No, the answer is incorrect.

Score: 0

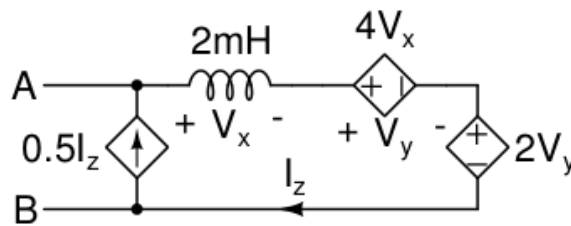
Accepted Answers:

(Type: Numeric) 0.2

1 point

7)

In the figure below, determine the equivalent inductance between A and B.



(The answer must be in **millihenries (mH)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

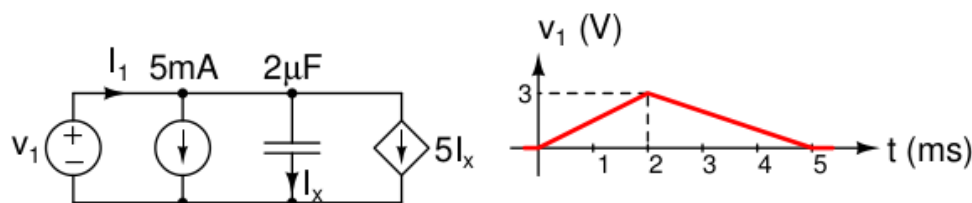
Accepted Answers:

(Type: Numeric) 52

1 point

8)

In the figure below, determine the current I_1 at $t = 4$ ms. (The waveform consists of straight line segments)



(The answer must be in milliamperes (mA). Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

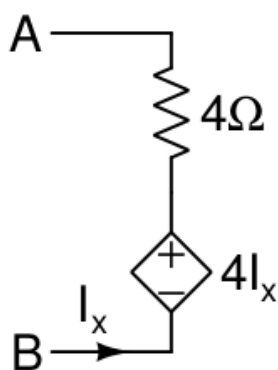
Accepted Answers:

(Type: Numeric) -7

1 point

9)

In the figure below, determine the equivalent resistance between A and B.



(The answer must be in ohms (Ω). Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

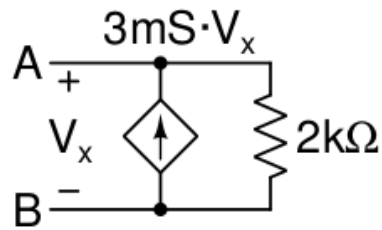
Accepted Answers:

(Type: Numeric) 0

1 point

10)

In the figure below, determine the equivalent resistance between A and B.



(The answer must be in **kilohms (kΩ)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(Type: Numeric) -0.4

1 point

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