X

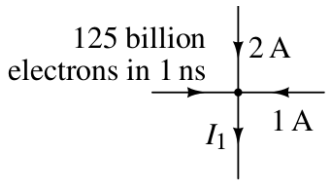
Unit 3 - Week 1: Preliminaries; Current and voltage; Electrical elements and circuits; Kirchhoff's laws; Basic elements; Linearity

Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-09-30, 23:59 IST.

1)



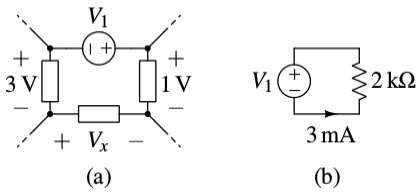
In the circuit above, determine I_1.Use magnitude of electronic charge = $1.6 \times 10^{-19} C$

(The answer must be in **amperes (A)**. Round off fractional answers to two decimal places.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) -17

1 point

2)



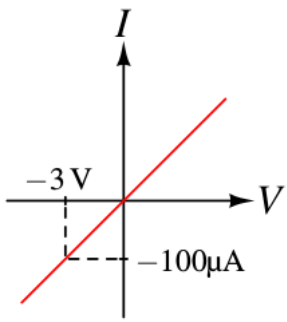
In the figure above, determine the voltage $\mathbf{V}_x$ in (a). The voltage source V_1 is such that when it is connected to a $2k\Omega$ resistor, a current flows as shown in (b).

(The answer must be in **volts (V)**. Round off fractional answers to two decimal places.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 4

1 point

3)



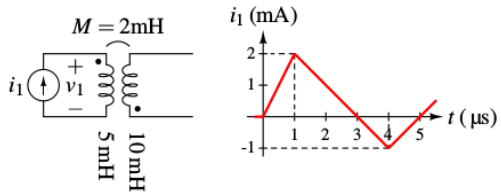
A resistor's ***I-V*** characteristics are shown in the figure above. Determine its resistance.

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

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 30

1 point

4)



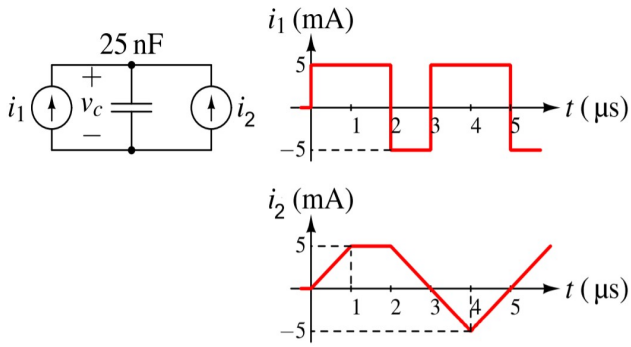
In the figure above, determine the voltage v_1 at t=3 μs. (The waveform consists of straight line segments)

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

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) -5

1 point

5)



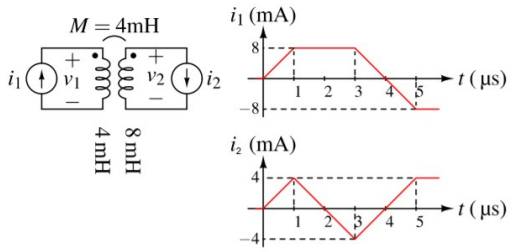
In the figure above, determine the voltage v_c at $t = 6\mu s$. The capacitor is initially discharged (i.e. the capacitor voltage is zero at $t = 0$). (The waveform consists
of straight line segments)

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

No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 700

1 point

6)



In the figure above, determine the voltage v_2 at $t = 4\mu s$. (The waveform consists of straight line segments)

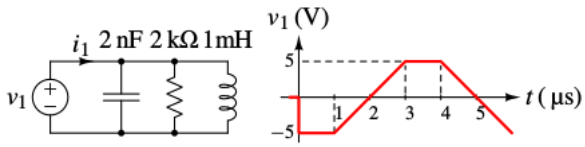
(The answer must be in **volts (V)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) -64

1 point

7)



In the figure above, determine the current i_1 at $t = 5\mu s$. The inductor current is zero at $t = 0$. (The waveform consists of straight line segments)

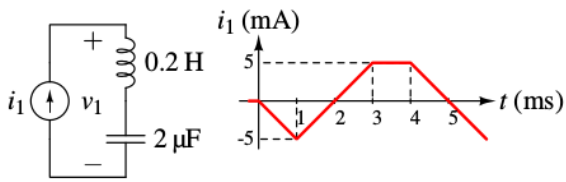
(The answer must be in **milliamperes (mA)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) -7.5

1 point

8)



In the figure below, determine the voltage v_1 at $t = 5ms$. The capacitor voltage and inductor current are zero at $t = 0$.

(The waveform consists of straight line segments)

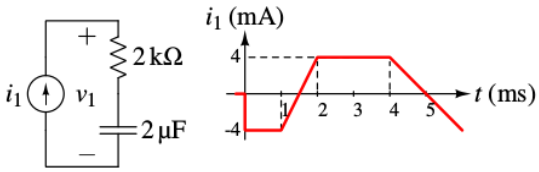
(The answer must be in **volts (V)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 1.5

1 point

9)



In the figure below, determine the voltage v_1 at $t = 5ms$. The capacitor voltage is zero at $t = 0$.

(The waveform consists of straight line segments)

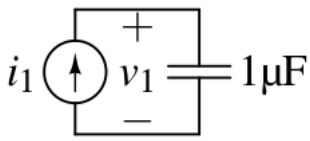
(The answer must be in **volts (V)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 3

1 point

10)



In the figure above, $i_1 = 5mA\ sin(2\pi \times 10^3\ t)$. Determine v_1 at $t = 1.5ms$. The capacitor voltage is zero at $t = 0$.

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

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 1.6

1 point