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# Unit 5 - Week 3: Power and energy in electrical elements; Circuit analysis methods

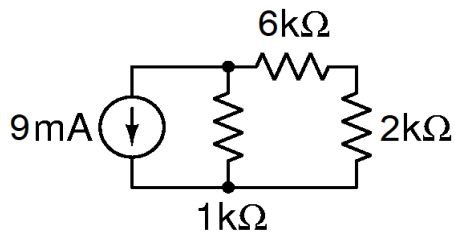


## Assignment 3

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

**Due on 2020-10-07, 23:59 IST.**

1) Determine the power *delivered* by the current source in the figure below.

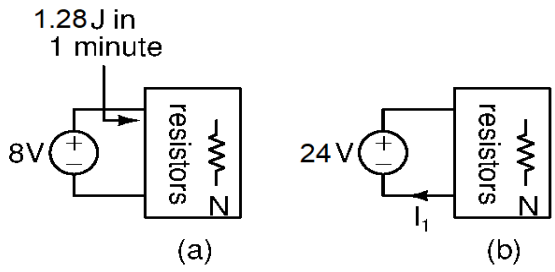



(The answer must be in **milliwatts (mW)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Range) 71,73*

*1 point*

2) In the figure below, in the circuit on the left, the network N which consists only of resistors draws an energy of 1.28 J over a period of 1 minute. The same circuit is driven by a 24 V source in (b). Determine the current $I_1$.

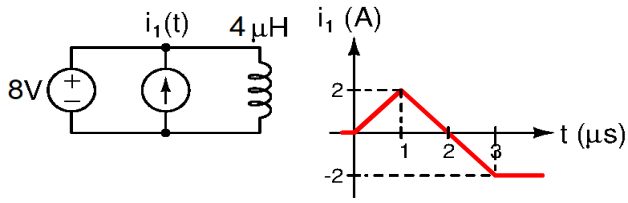



(The answer must be in **milliamperes (mA)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Range) 7.9,8.1*

*1 point*

3) Determine the energy *delivered* by the voltage source from $t = 0$ to $t = 3\,\mu s$ in the figure below. The inductor current is zero at $t = 0$.

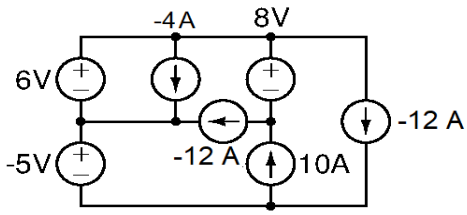



(The answer must be in **microjoules (μJ)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Range) 63,65*

*1 point*

4) Determine the power *delivered* by the 6 V voltage source in the figure below.

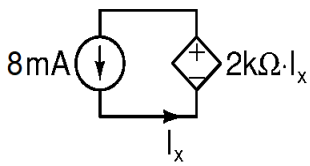



(The answer must be in **Watts (W)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Numeric) -228*

*1 point*

5) In the figure below, determine the power *delivered* by the 8mA current source.

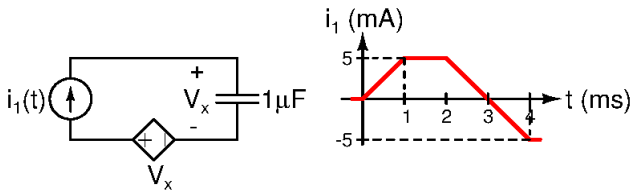



(The answer must be in **milliwatts (mW)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Numeric) -128*

*1 point*

6) In the figure below, determine the energy *delivered* by the current source from $t = 0$ to $t = 4$ ms.




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

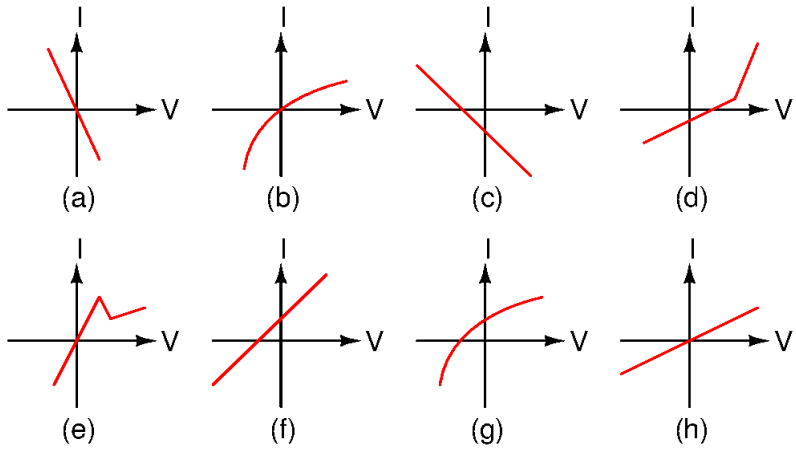
No, the answer is incorrect.
Score: 0

Accepted Answers:
*(Type: Numeric) 0*

1 point

7) In the figure below, identify the elements that are passive. There maybe more than one.

1 point

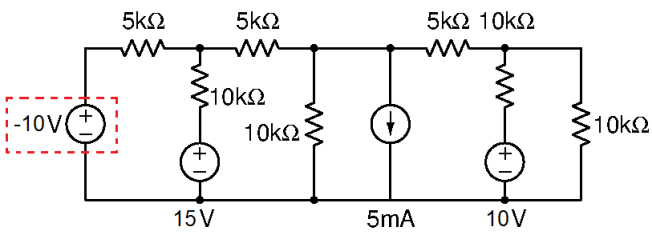



- a
- b
- c
- d
- e
- f
- g
- h

No, the answer is incorrect.
Score: 0

Accepted Answers:
*b*
*e*
*h*

8) Determine the power *delivered* by the **-10 V** source in the figure below.

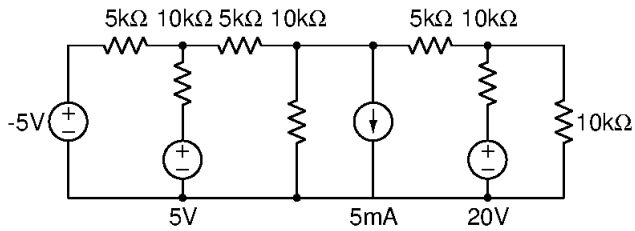



(The answer must be in **milliwatts (mW)**. Round off fractional answers to one decimal place.)

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Range) 5.75,6.75*

*1 point*

9) Determine the number of independent KCL equations that can be written for the circuit below (treat each two-terminal element as a branch).

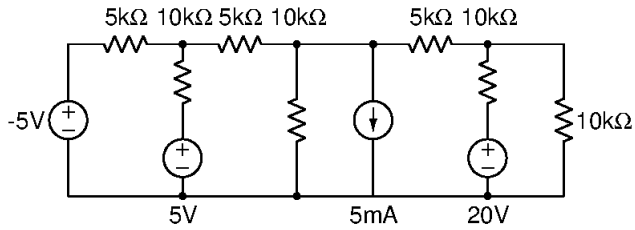



Your answer must be the number of equations.

No, the answer is incorrect.
Score: 0
Accepted Answers:
*(Type: Numeric) 6*

*1 point*

10) Determine the number of independent KVL equations that can be written for the circuit below (treat each two-terminal element as a branch).




Your answer must be the number of equations.

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

*1 point*