

Quiz 3

Electrical Circuits 1

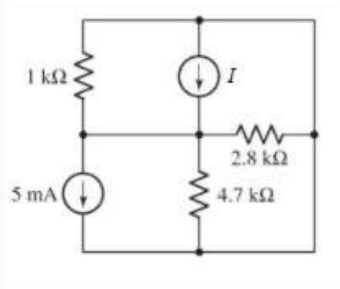
TE1002

Tecnológico de Monterrey

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Name _____

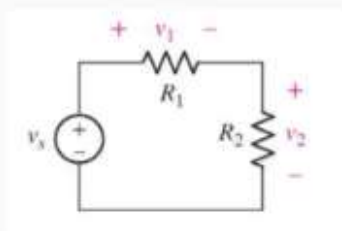
NOTE: This is a multi-part question. Once an answer is submitted, you will be unable to return to this part. Consider the given circuit where $I = 9 \text{ mA}$.



1.

Determine the power absorbed by each resistor. (You must provide an answer before moving to the next part.)

NOTE: This is a multi-part question. Once an answer is submitted, you will be unable to return to this part. Consider the given circuit.



2.

☐ $v_1 = v_s \frac{R_1}{R_1 + R_2}$

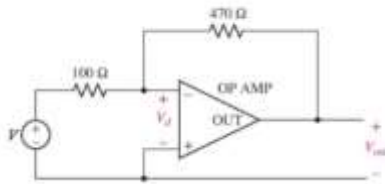
☐ $v_2 = v_s \frac{R_2}{R_1 + R_2}$

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3.

The circuit shown in the figure given below includes a device known as an op amp. This device has two unusual properties in the circuit shown: (1) $V_O = 0$ V, and (2) no current can flow into either input terminal (marked "-" and "+" inside the symbol), but it can flow through the output terminal (marked "OUT"). This seemingly impossible situation—in direct conflict with KCL—is a result of power leading to a device that is not included in the symbol. Based on this information, calculate V_{out} if $V = 11$ V.



The voltage V_{out} is