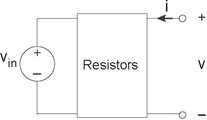


1. What is the Thevenin equivalent circuit?
2. What voltage will appear if we place a 1 F capacitor across the terminals?

In the lab, the open-circuit voltage measured across an unknown

circuit's terminals equals sin (***t***). When a 1Ω resistor is place across the terminals, a voltage of

**Problem 3.24: Circuit Detective Work**



**Figure 3.68 Mystery Circuit**

1. Sammy measures v = 10 V when a 1 Ω resistor is attached to the terminals. Samantha says he is wrong. Who is correct and why?
2. When nothing is attached to the right-hand terminals, a voltage of v =1 V is measured. What circuit could produce this output?
3. When a current source is attached so that i =2amp, the voltage v is now 3 V. What resistor circuit would be consistent with this and

the previous part?

We want to determine as much as we can about the circuit lurking in the impenetrable box shown in [Figure 3.68](#_bookmark195). A voltage source ***v***in =2 ***V*** has been attached to the left-hand terminals, leaving the right

terminals for tests and measurements.

**Problem 3.25: Mystery Circuit**