

2. In the following circuit $R_2 = 5.00\ \Omega$ and its resistance is temperature independent. R_2 is submerged in 40.0 g of water at $15.0\text{ }^\circ\text{C}$. How long does the circuit have to run for all of the water to turn into steam at $100.0\text{ }^\circ\text{C}$? [Assume no heat is lost to the environment.]

