Problem HH 1.9

For the circuit shown in the Figure below, with \( V_{\text{in}} = 30 \text{V} \) and \( R_1 = R_2 = 10k\Omega \), find:

1. The output voltage with no load attached (this is the open-circuit voltage).

2. The output voltage with a 10kΩ load (treat as voltage divider, with \( R_2 \) and \( R_{\text{load}} \) combined into a single resistor)

3. The Thevenin equivalent circuit.
4. The same as in part (2), but using the Thevenin equivalent circuit (again you wind up with a voltage divider; the answer should agree with the result in part (2)).

5. The power dissipated in each of the resistors.