Problem Wk.9.3.4: Thevenin divider

This problem considers how to use Thevenin equivalents to analyze the combination of two resistor divider circuits.

1. Consider the following circuit:

Assume that \( R_1 = R_2 = R_3 = R_4 \), what is the ratio \( V_o/V_s \)?

2. Let's replace the part of the circuit including the voltage source and \( R_1 \) and \( R_2 \) with its Thevenin equivalent (whose output terminals connect to \( R_3 \) and ground). The resulting circuit is one of these two circuits:

All four answers below must be entered before checking. All four answers will be marked incorrect when checked until all four answers are entered correctly. Assume that \( V_S = 10 \) and all the resistors are \( 1000 \) Ohm.

Which circuit is the correct one? (Enter A or B):

What is the Thevenin voltage source \( V_T \)? (Enter float) Volt.

What is the value of the Thevenin resistance \( R_T \)? (Enter float) Ohm.

What is the value of \( V_0 \)? (Enter float) Volt.