EE3 Fall 2021
Homework Problem 1

This problem exercises your knowledge of how to use the Passive Sign Convention.

a. Find V_1 by writing a KCL equation at the top of the 6 Ω resistor. This time, you are not assuming all currents are leaving the node. Rather, they are in the directions indicated by the arrows. Voltages across the resistors are assumed to be as marked.
b. Using the P=VI formulation, compute the power for each component. The sum should add to zero.
c. Reverse the assumed directions of the currents through (and the voltage polarities across) the two horizontal resistors and repeat steps a and b. You should get the same answers.