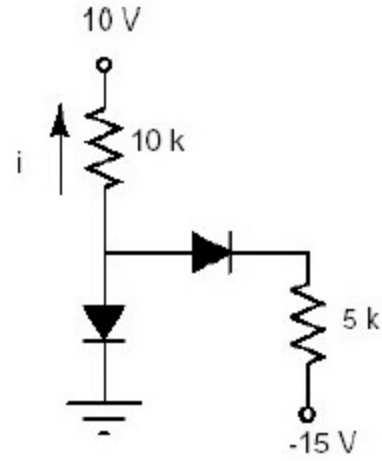
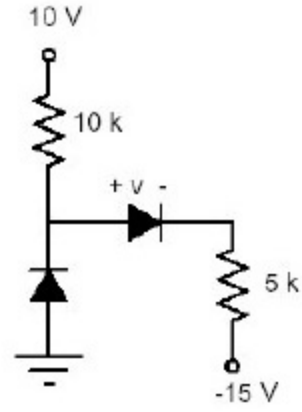
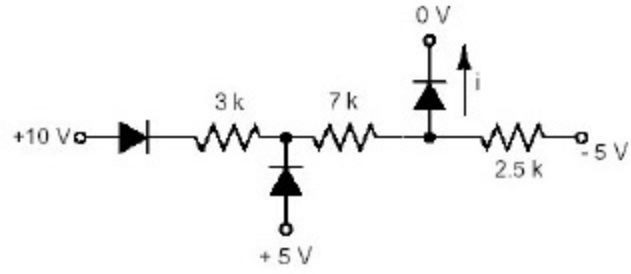
1. In the circuit[1] below, find i.



2. In the circuit below, find v.

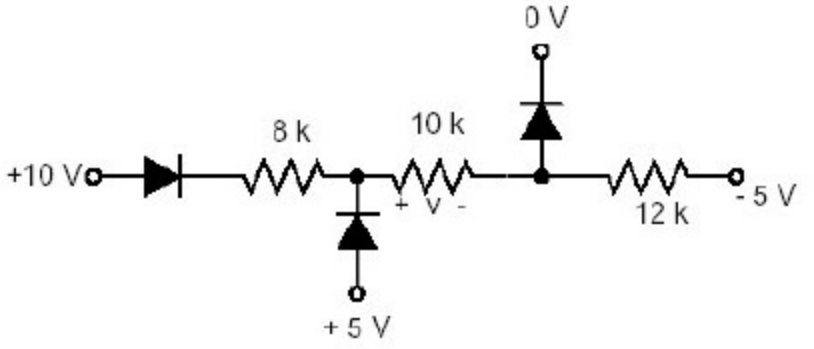


3. In the circuit below, find i.

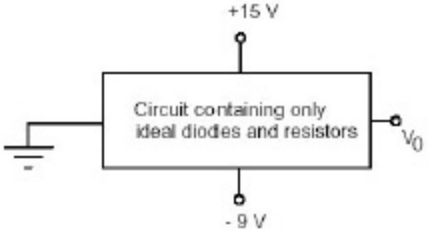


1 Unless otherwise stated, assume all diodes in this homework are ideal.

4. In the circuit below, find v.



5. The circuit in the box below contains ONLY ideal diodes and resistors.



(a) Is the maximum value of V_0 0 V, -6 V, + 6 V or 15 V? EXPLAIN your answer, for instance give a circuit justifying your result.
(b) Is the minimum value of V_0 0 V, -9 V, + 6 V or 15 V? EXPLAIN your answer, for instance, give a circuit justifying your result.

6. (a) In the circuit below, plot V_0 as a function of V_s. Assume $V_1 = V_2 = 3V$.
   (b) If Vs = 5 sin(2 π 1000t) volts, sketch V_0 on the same set of axes. Assume $V_1 = V_2 = 3$ V (as in part (a)). Show 2-3 cycles of the output. Briefly explain why this circuit is called as a **diode clipper**.