EE1100 - Diodes and Op-amps

Problem 1

Consider the following circuit. Assume the op-amp is ideal and the diode follows the constant voltage-drop model ($V_D = 0.7$ V when forward-biased). Calculate V_0 if $V_i = +1$ V
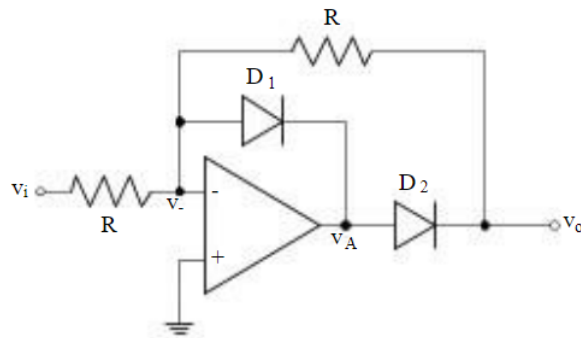

Figure 1: Circuit for Problem 1

Problem 2

In the figure shown below, the input offset voltage and input offset current are $4mV$ and $150nA$ respectively. Find the total output offset voltage.
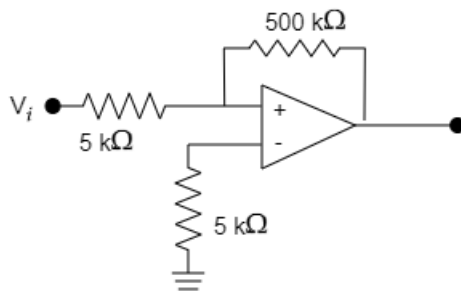

Figure 2: Circuit for Problem 2

Ans: 479mV

Problem 3

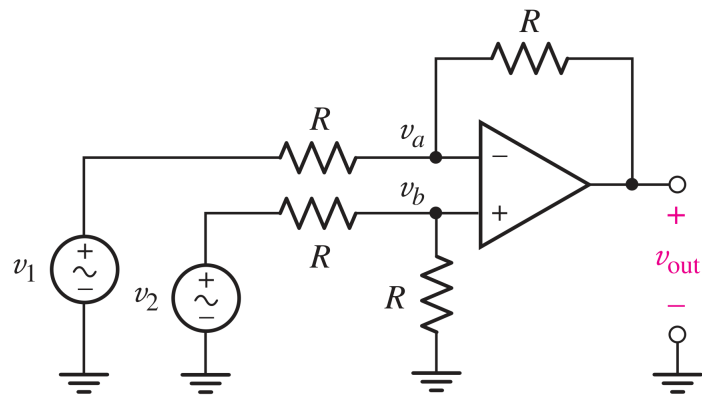Derive the expression for output voltage in the circuit below

Figure 3: Problem 3