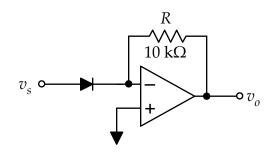
Calculate v_o as a function of v_s for the diode/op-amp circuits shown. In each case, the op-amp is ideal, the diode has scale factor $I_S = 10^{-14}$ A, and the circuit is operating at room temperature. Note that you must use the exponential i-v relationship for the diode. (The on-off model of the diodes will *not* describe the operation of the circuit.)

A. $v_s \circ \frac{R}{10 \text{ k}\Omega} + v_s \circ v_s$

 $v_0 =$ _____

B.



 $v_o =$