Special Problem 3.4-10

The zener diode in this circuit has a breakdown voltage of $V_{ZK}$.

The dynamic resistance of the zener diode is zero.

The zener diode in this circuit is in breakdown, with a current of $i_Z = 3.0$ mA.

The current through the load resistor $R_L$ is $i_L = 2.0$ mA.

1. Determine the zener breakdown voltage of the zener diode.
2. What is the value of load resistor $R_L$?
3. Using the values of $V_{ZK}$ and $R_L$ you just determined, determine the value of output voltage $v_O$ if the source voltage is increased to $v_S = 26.0$ V.