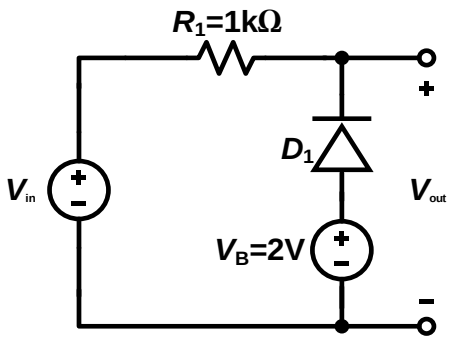
Name: _____

EXAM #1 EXTRA POINTS

*All work is to be your own - **show your work** for maximum partial credit.*

1. For the circuit shown below, assume ***a constant voltage diode*** model (i.e. $V_{D,on}$=**0.8**):



(a) Plot input/output characteristics (i.e. V_{out} *vs* V_{in} plot).

(b) Find the current flowing through the resistor when the input is a DC source of 1V (i.e. V_{in} = 1V).

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(c) In part (a), the input is given by $V_{in}(t)=V_p\sin(\omega t)$, where V_p=5V and $\omega=2\pi\cdot 60$ rad/s. Plot input and output waveforms, $\boldsymbol{V_{in}(t)}$ and $\boldsymbol{V_{out}(t)}$ respectively as a function of time, t.