H.W. #12 EE 220 Fall 2021
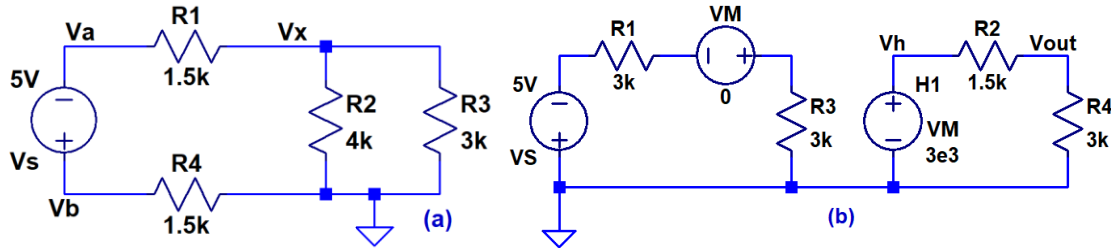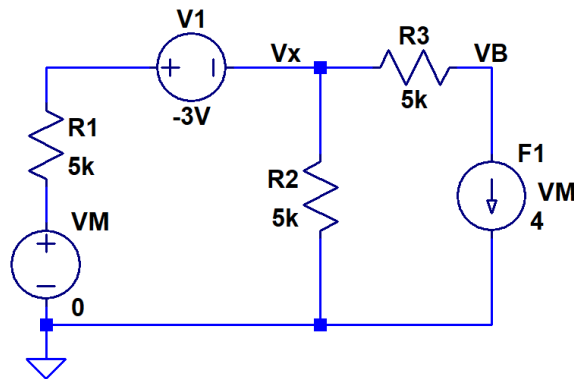
Show your work for credit!

1. Calculate the voltage across Vx and Vout in the following circuits. Next find the Thevenin and Norton equivalent circuits at Vx and Vout. Show that your equivalent circuits result in the same Vx and Vout circuit as the original circuit seen below. Verify with LTspice. (6 points)

(a)   (b)

2. Calculate VB in the following circuit and then verify your calculation using LTspice. (3 points)

3. Write an equation for Vout as a function of Vin in the following circuits. Plot Vout if Vin varies from -1 to 1 V in each circuit. Verify your answers, including your plots, using a DC sweep in LTspice. (6 points)

(a)   (b)