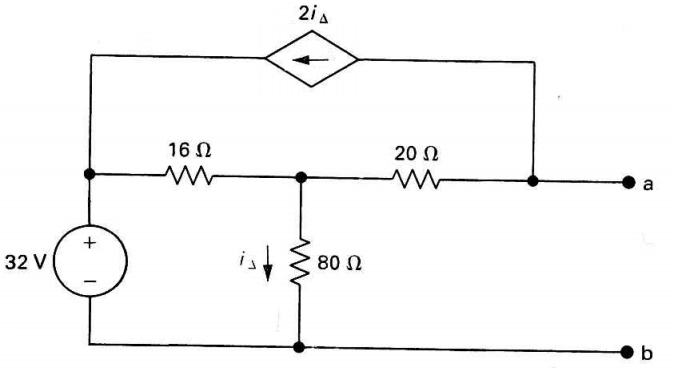
ENGR 12 PRACTICE TEST 2 NAME_____

(use this to prepare for test 2. The actual test 2 will have several short answer drill exercises similar to test1)

1) Use the **node voltage method** to find the Thevenin voltage of this circuit at a-b. The answer is a whole number.



2) Now, for the same circuit above, turn off the **independent** source, connect a 1V Test power supply to terminals a-b and use the **mesh current method** to find the Thevenin Resistance. (Hint: this reduces quickly to 2 eqs, 2 unknowns that are not hard to solve. The answer for Rth is a whole number).

3) The op-amp in the circuit shown is ideal.

a) Calculate Vo when Vg = 4 V

b) Specify the range of values of Vg so that the op-amp remains in linear mode.

c) Assume that Vg = 2V and that the 63k resistor is replaced with a variable resistor. What value of the variable resistor will cause the op-amp to saturate?