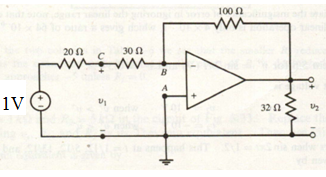
ENGR 12 Assignment 6 Due: next wed

**Part I. Drills -- 1 point each**

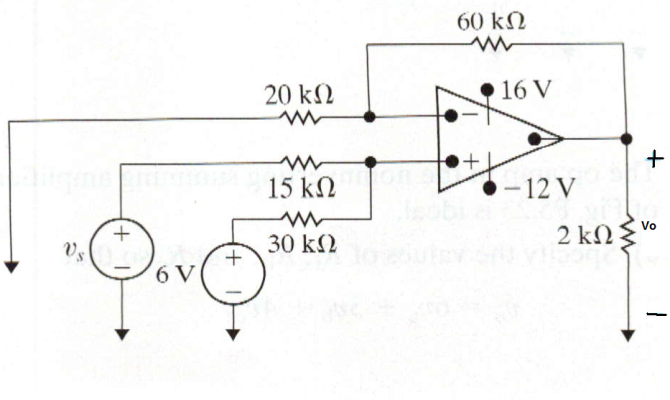
1. For the following circuit: What type of Op-Amp circuit is it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ then, find V1 and V2



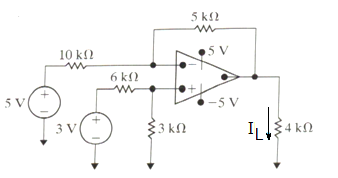
1. For the following circuit: What type of Op-Amp circuit is it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ then, find Vo



1. For the following circuit: What type of Op-Amp circuit is it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ then, find Vo



1. For the following circuit: What type of Op-Amp circuit is it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ then, find iL in micro-Amperes



1. Repeat #1 using non-ideal op-amp model. Take A = 100000, Ri = 500 kOhm, Ro = 75 Ohm [ a CHALLENGE!!!]

See Lecture Slide 6 for details. Set up non-ideal model in prob1 circuit and perform KCL/KVL to determine Vo.

**Part II. Assisted Problem Solving – 2 pts each**

|  |  |
| --- | --- |
| 6 Find Vc, i1, Rin (input Resistance seen by 9V source), v2, i2 | PLAN   1. Observe that VB = 0 due to negative feedback 2. Set up a Node equation for Node C, find Vc 3. Use Vc to find i1 4. Rin is just V1/i1 5. use the appropriate amplifier formula to find v2 6. and so find i2 |
| 7 Find Vo for the following 2 stage amplifier. What is the total gain of the amplifier? (G = vo/Vin) | PLAN   1. First identify the types of amplifier circuits being employed for both op-amps. 2. Using the appropriate amplifier formula, find the output of the first op-amp. 3. Use this result in another op-amp formula to determine Vo 4. Use this result in the Gain formula |

**Part III. Unassisted Problem Solving – 3 points each**

8) Find vo for the following circuit:   
