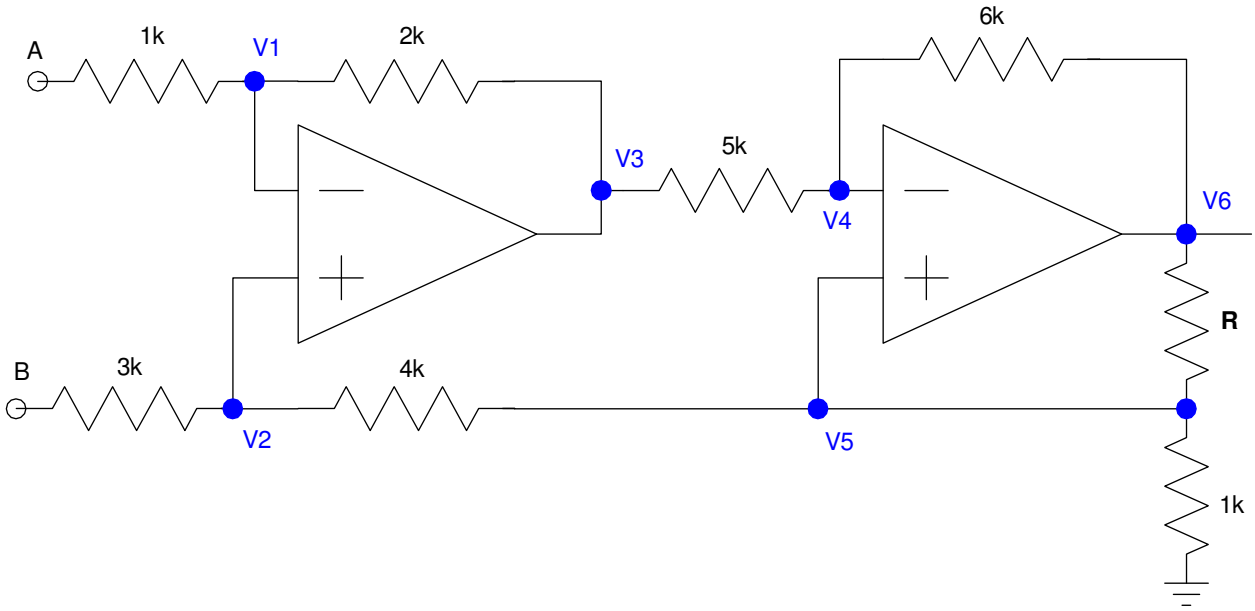
ECE 321 - Quiz #1 - Name _____

Op-Amp Amplifiers & mixers., Push-Pull Amplifiers

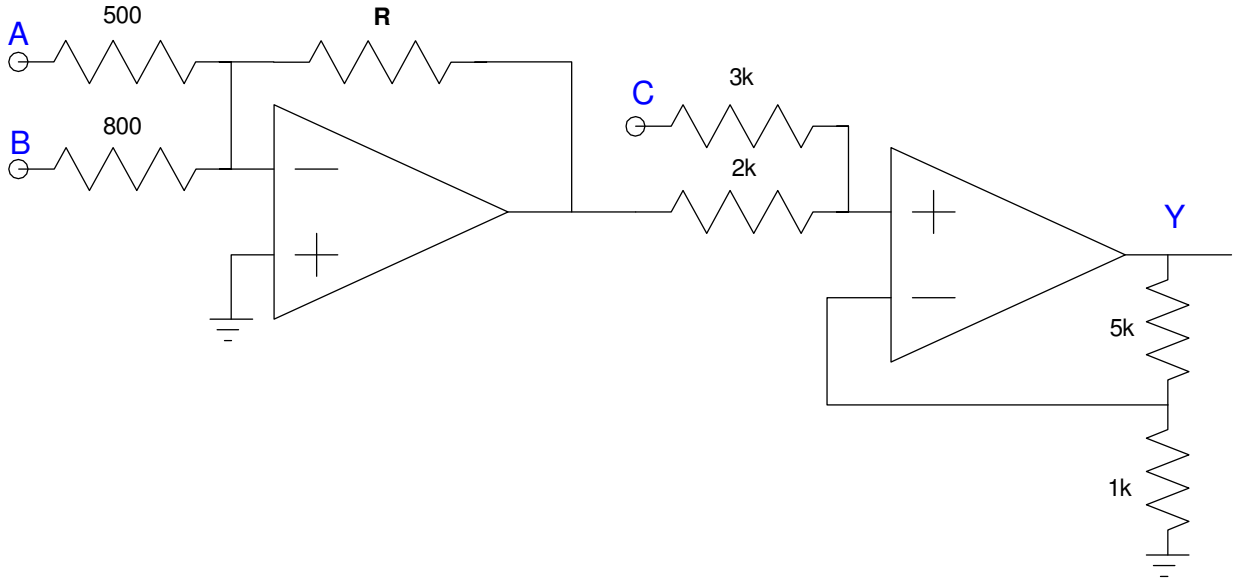
1) Give 6 equations which allow you to solve for the 6 unknown voltages. You do not need to solve.

- Assume ideal op-amps.
- Assume R = 1100 + 100*(your birth month) + (your birth day). For example, May 14th gives R = 1614.



2) Determine Y as a funciton of A, B, and C.

- Assume ideal op-amps
- Assume R = 1100 + 100*(your birth month) + (your birth day). For example, May 14th gives R = 1614.



3) Design a circuit which outputs

$$Y = 5A + 2B + 7C$$

note: the gain on C is positive

4) Design a circuit which outputs

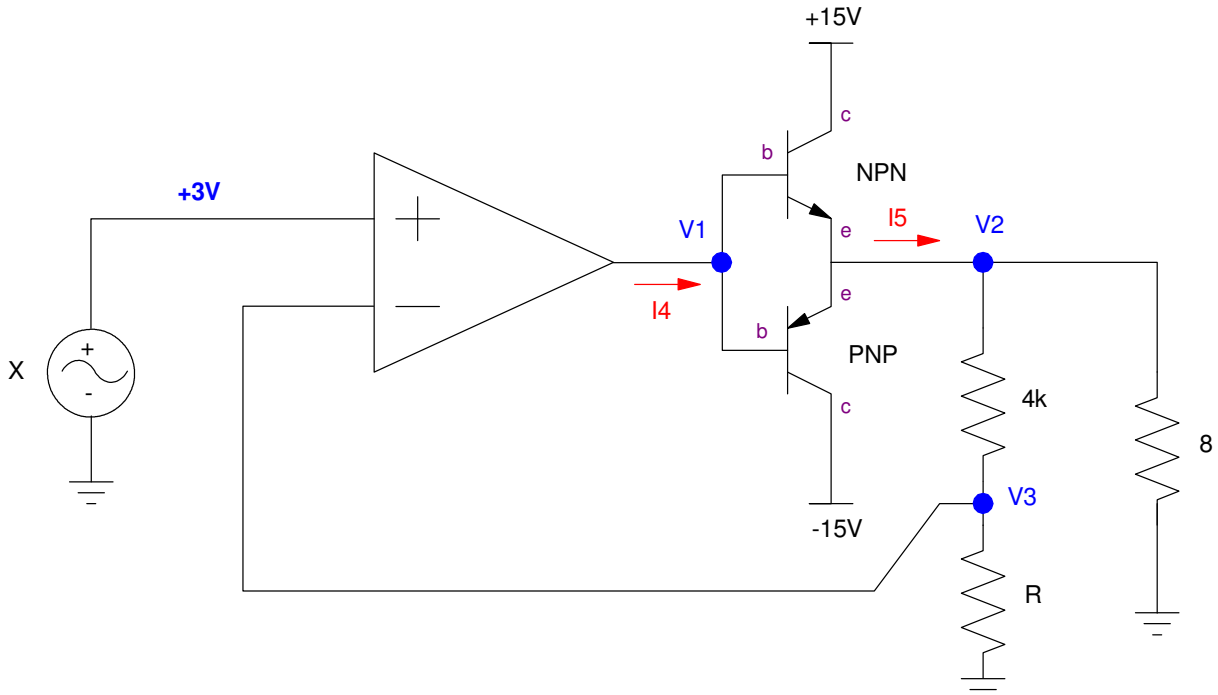
$$Y = 5A + 2B - 7C$$

note: the gain on C is negative

5) Determine the voltages and currents for the following push-pull amlifier. Assume

- Ideal op-amps
- R = 1100 + 100*(your birth month) + (your birth day)
- TIP31 and TIP32 transistors:
  - β=200
  - $|V_{be}| = 0.7V$

R 1100 + 100*mo + day	V1	V2	V3	I4	I5



6) Determine the voltages and currents for the following push-pull amlifier. Assume

- Ideal op-amps
- R = 1100 + 100*(your birth month) + (your birth day)
- TIP31 and TIP32 transistors:
  - β=200
  - $|V_{be}| = 0.7V$

R 1100 + 100*mo + day	V1	V2	V3	I4	I5	I6