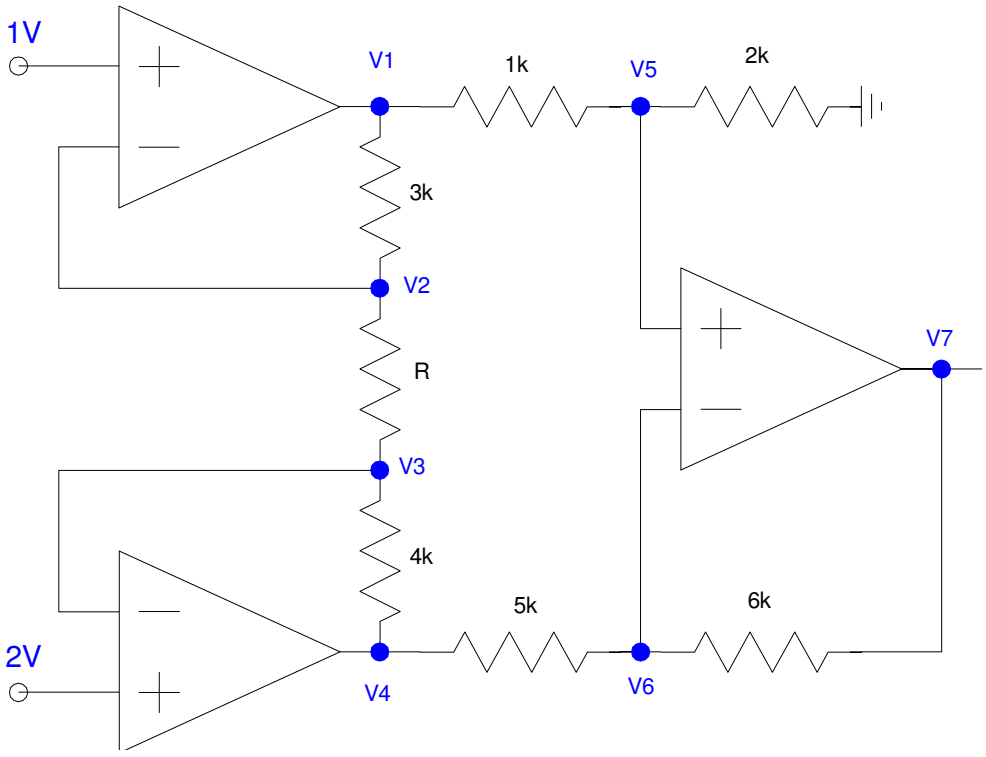
ECE 321 - Quiz #1 - Name _____

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

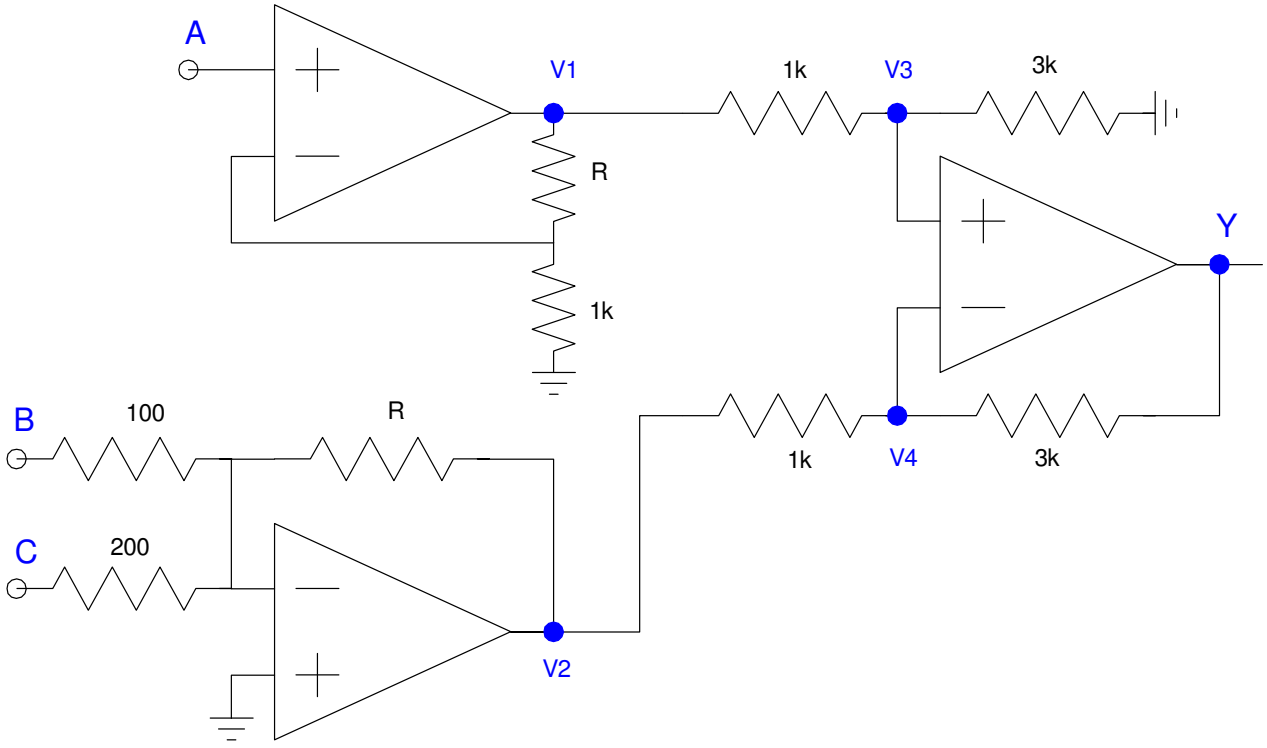
1) Give 7 equations which allow you to solve for the 7 unknown voltages. You do not need to solve.

- Assume ideal op-amps.
- Assume R = 900 + 100*(your birth month) + (your birth day).



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

- Assume ideal op-amps
- Assume R = 900 + 100*(your birth month) + (your birth day).



3) Design a circuit which outputs

$$Y = 4 + 2A + 3B$$

note: the gain on A and B are positive

4) Design a circuit which outputs

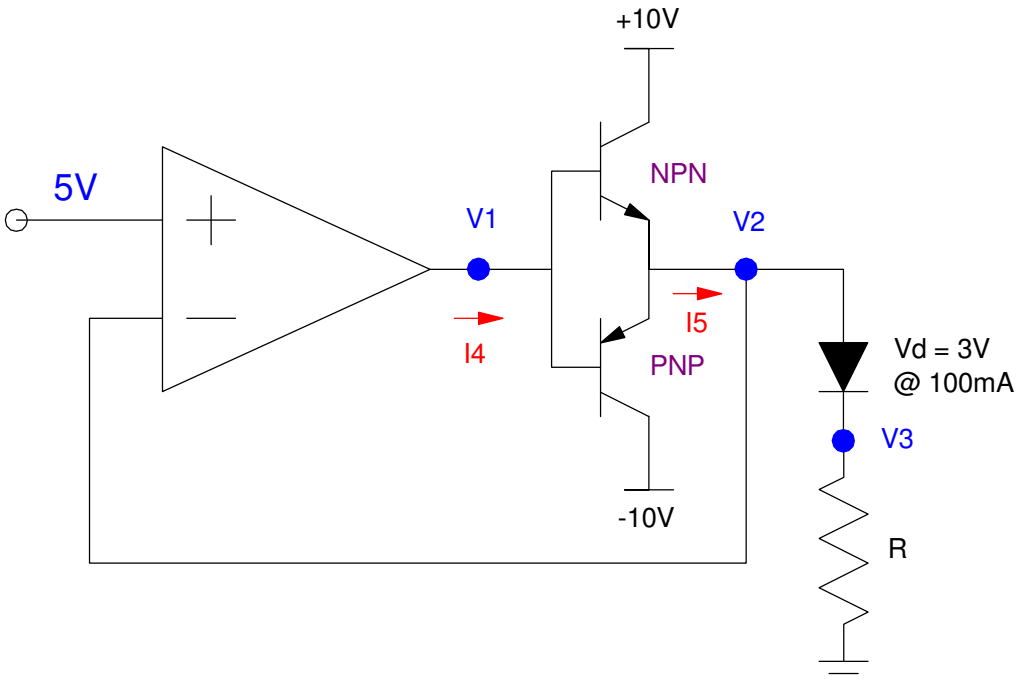
$$Y = 4 - 2A - 3B$$

note: the gain on A and B are negative

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

- Ideal op-amps
- R = 900 + 100*(your birth month) + (your birth day)
- Transistors with:
  - $\beta = 30$
  - $|V_{be}| = 0.7V$

R 900 + 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 = 900 + 100*(your birth month) + (your birth day)
- Transistors with
  - $\beta = 30$
  - $|V_{be}| = 0.7V$

R 900 + 100*mo + day	V1	V2	V3	I4	I5