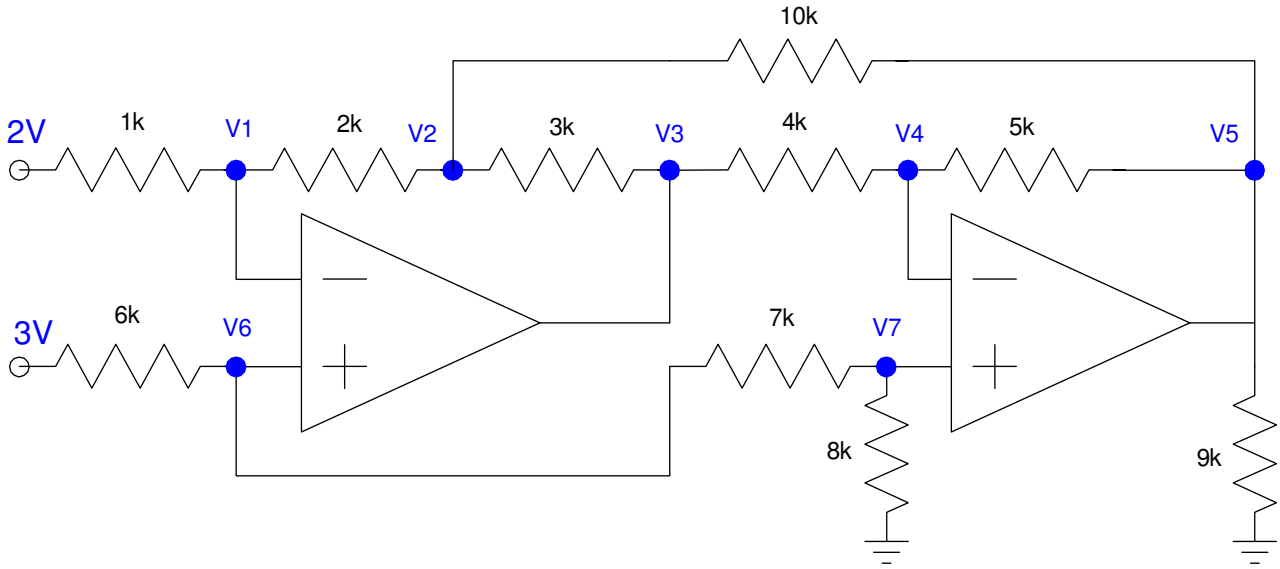
ECE 321 - Quiz #1 - Name _____

Op-Amp Amplifiers & mixers., Push-Pull Amplifiers - Spring 2023

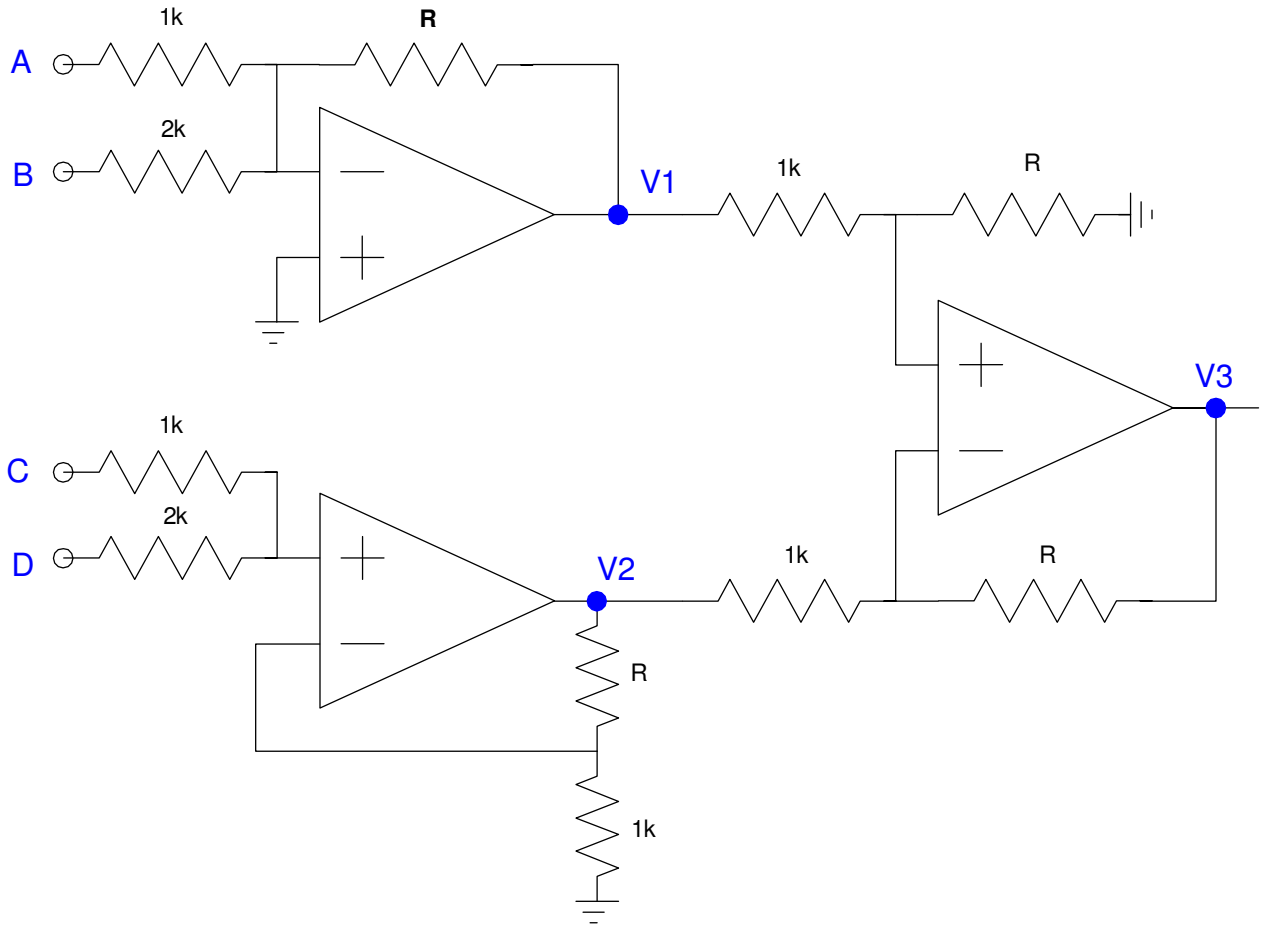
1) Give 7 equations which allow you to solve for the 7 unknown voltages. You do not need to solve.

- Assume ideal op-amps.



2) Determine V1, V2, and V3 as a funciton of A, B, C, and D.

- Assume ideal op-amps
- Assume R = 800 + 100*(your birth month) + (your birth day).



3) Design a circuit which outputs

$$Y = 1.3A + 2.5B + 3.7C$$

note: the gain on A and B are positive

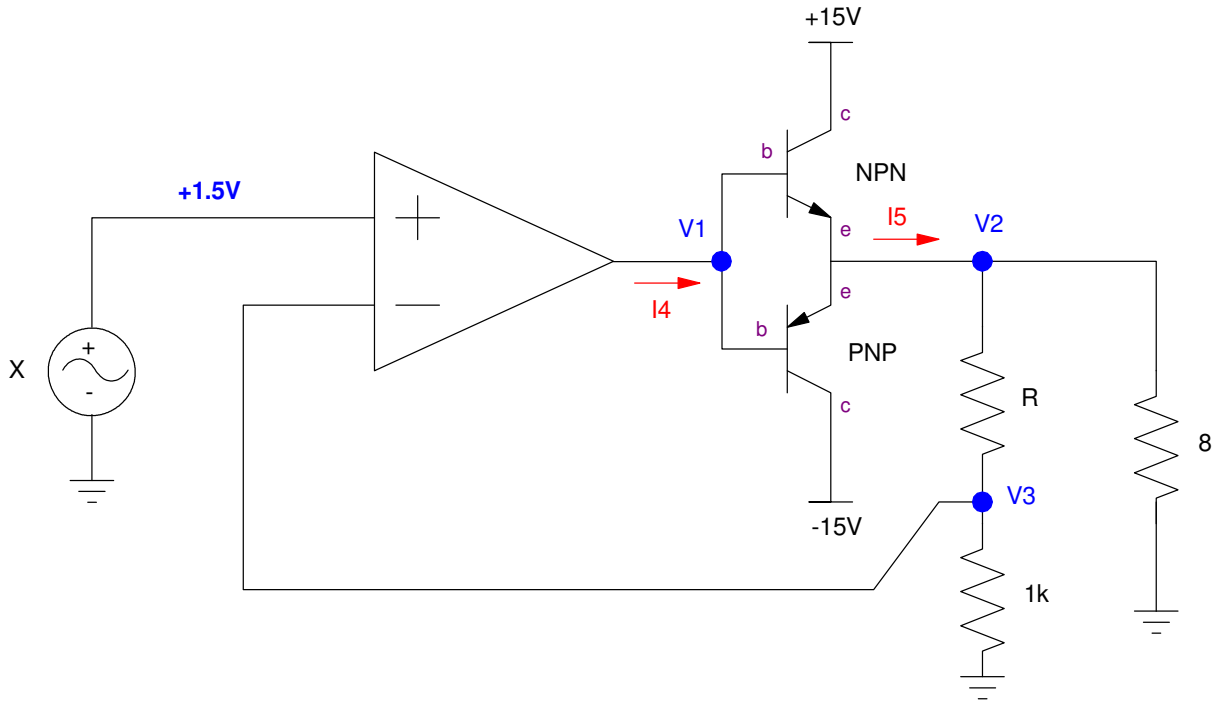
4) Design a circuit which outputs

$$Y = 1.3A - 2.5B + 3.7C$$

note: the gain on B is negative

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

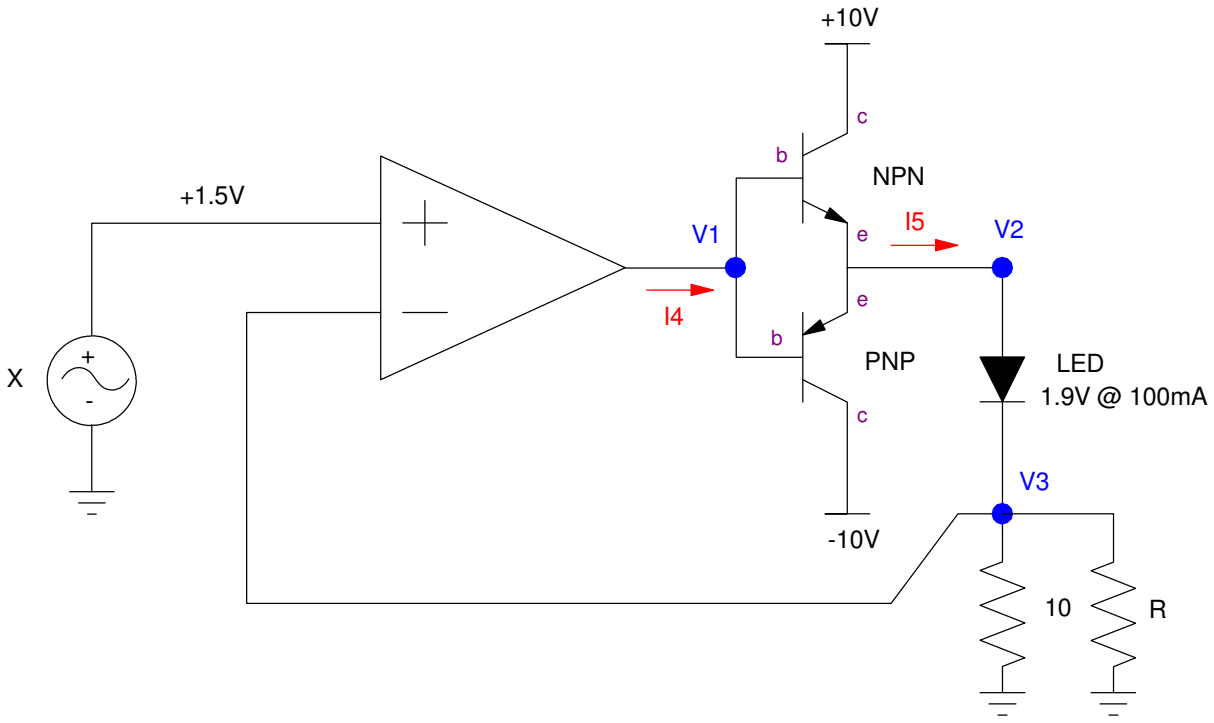
- Ideal op-amps
- X =1.5VDC
- R = 800 + 100*(your birth month) + (your birth day)
- Transistors with:
  - $\beta = 25$
  - $|V_{be}| = 0.7V$



R 800 + 100*mo + day	V1	V2	V3	I4	I5

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

- Ideal op-amps
- X = 1.5VDC
- R = 800 + 100*(your birth month) + (your birth day)
- Transistors with
  - $\beta = 25$
  - $|V_{be}| = 0.7V$



R 800 + 100*mo + day	V1	V2	V3	I4	I5