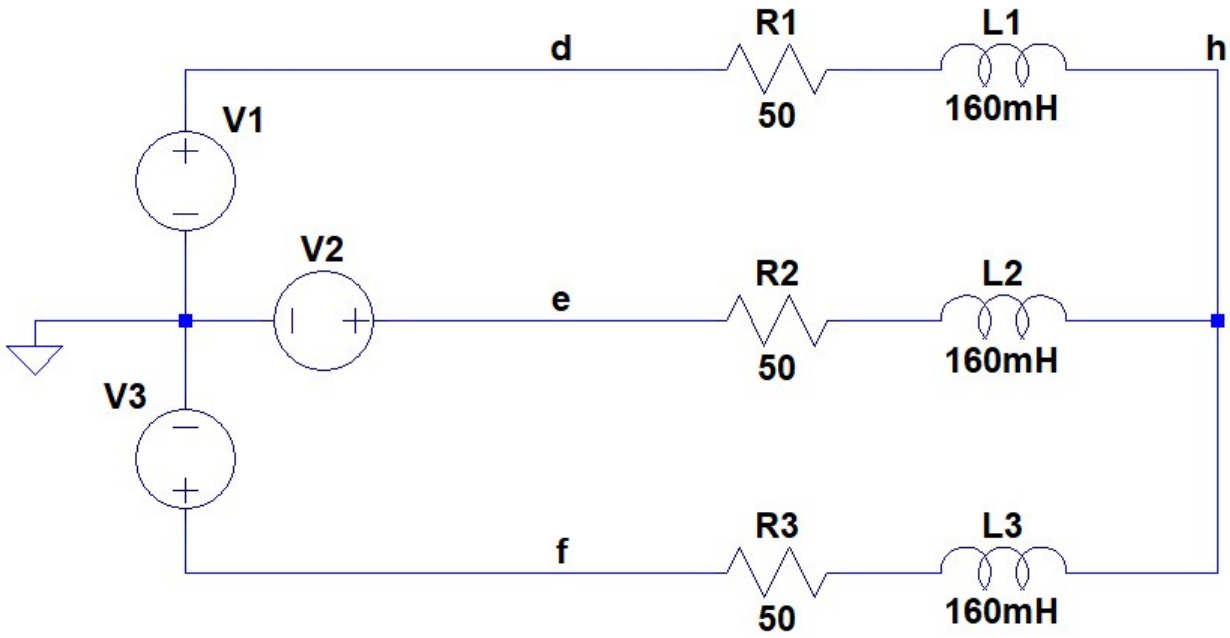

Given the above schematic diagram and V_1, V_2 and V_3 have the same magnitude of 311V, frequency 50Hz, but different phases 0, 120°, and 240°, respectively. Answer the following questions for AC steady state analysis.

Q1. Magnitude of nodal voltage V(h).

Q2. Magnitude of current ix passing through V1 from + to -.

Q3. Phase of current ix passing through V1 from + to -.

Q4. Magnitude of current iy passing through V2 from + to -.

Q5. Phase of current iy passing through V2 from + to -.

Q6. Magnitude of current iz passing through V3 from + to -.

Q7. Phase of current iz passing through V3 from + to -.

Q8. Frequency of iz in Hz.

Write your answers in the following format.

```
A1. Vh = 0 V
A2. Mag ix = 0 A
A3. Phase ix = 0 rad
A4. Mag iy = 0 A
A5. Phase iy = 0 rad
A6. Mag iz = 0 A
A7. Phase iz = 0 rad
```

A8. Freq iz = 0 Hz