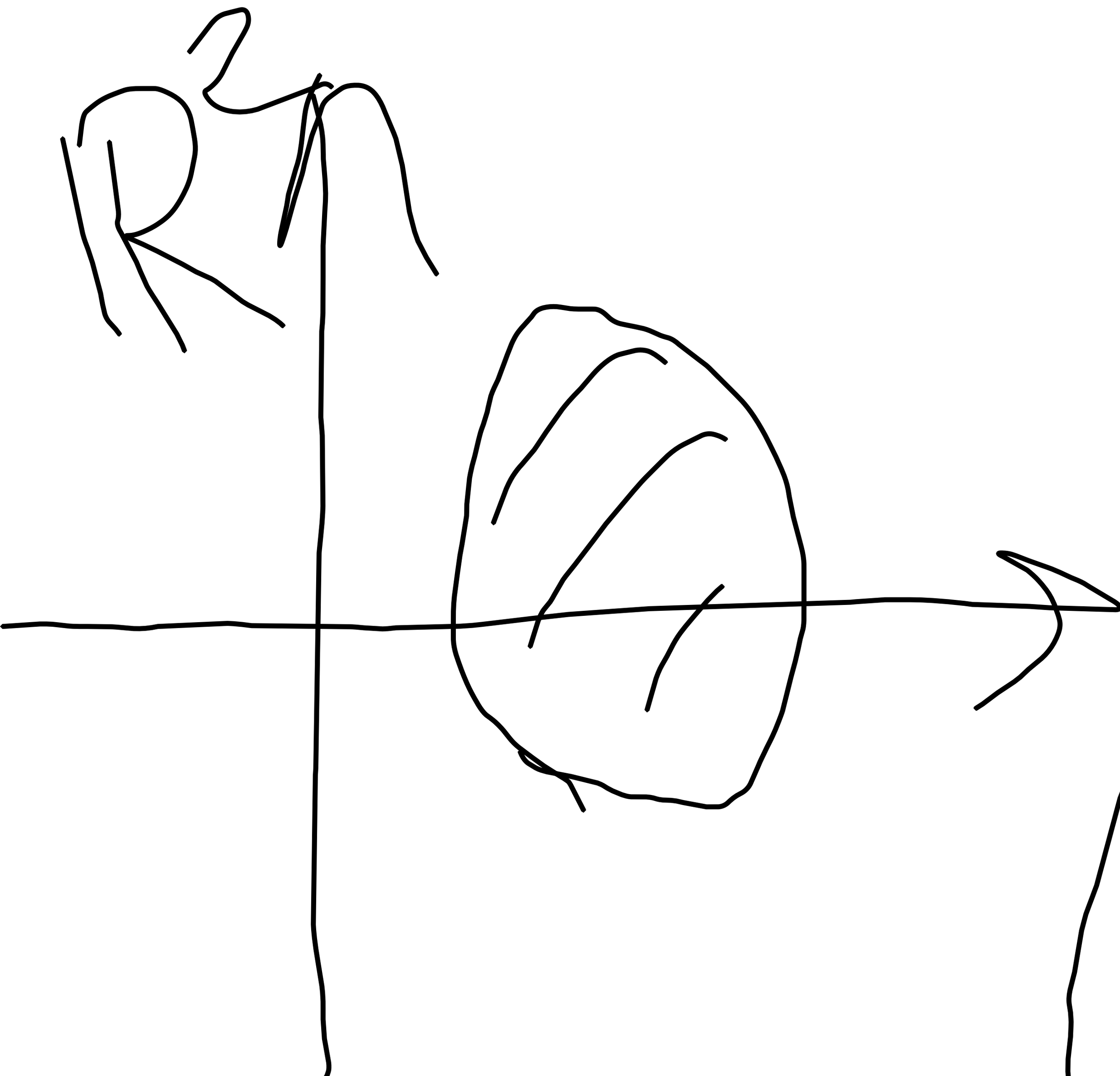
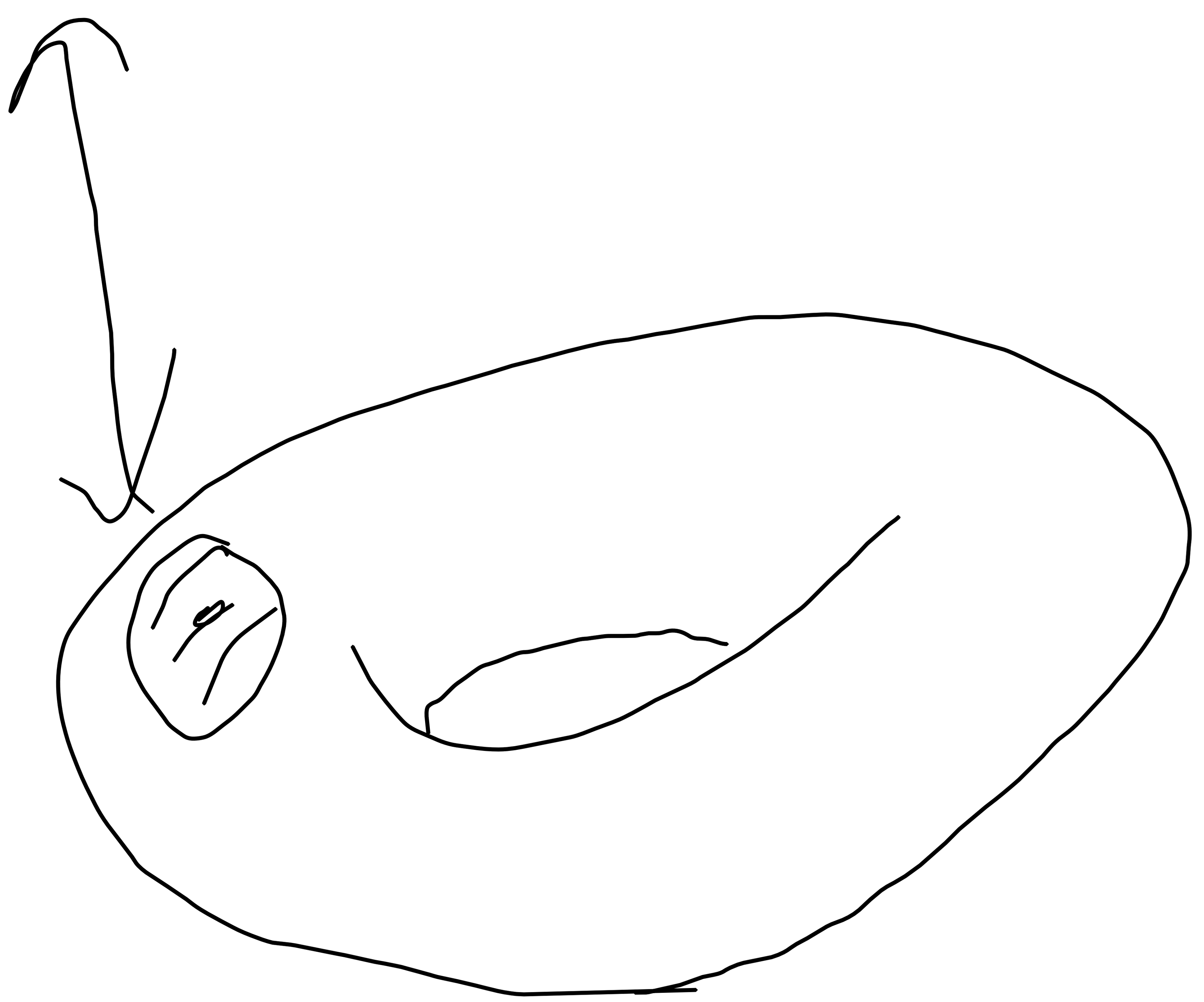
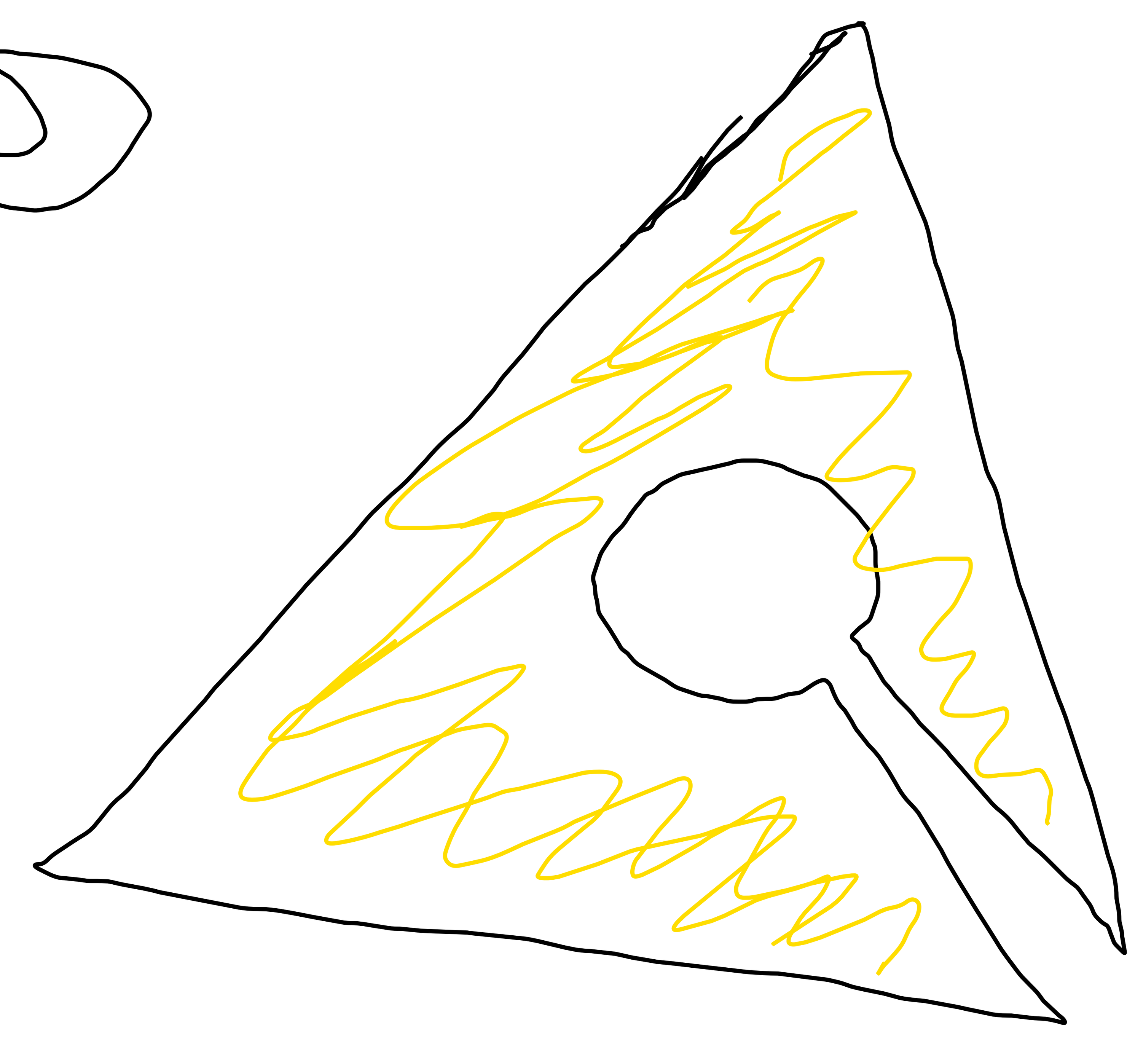
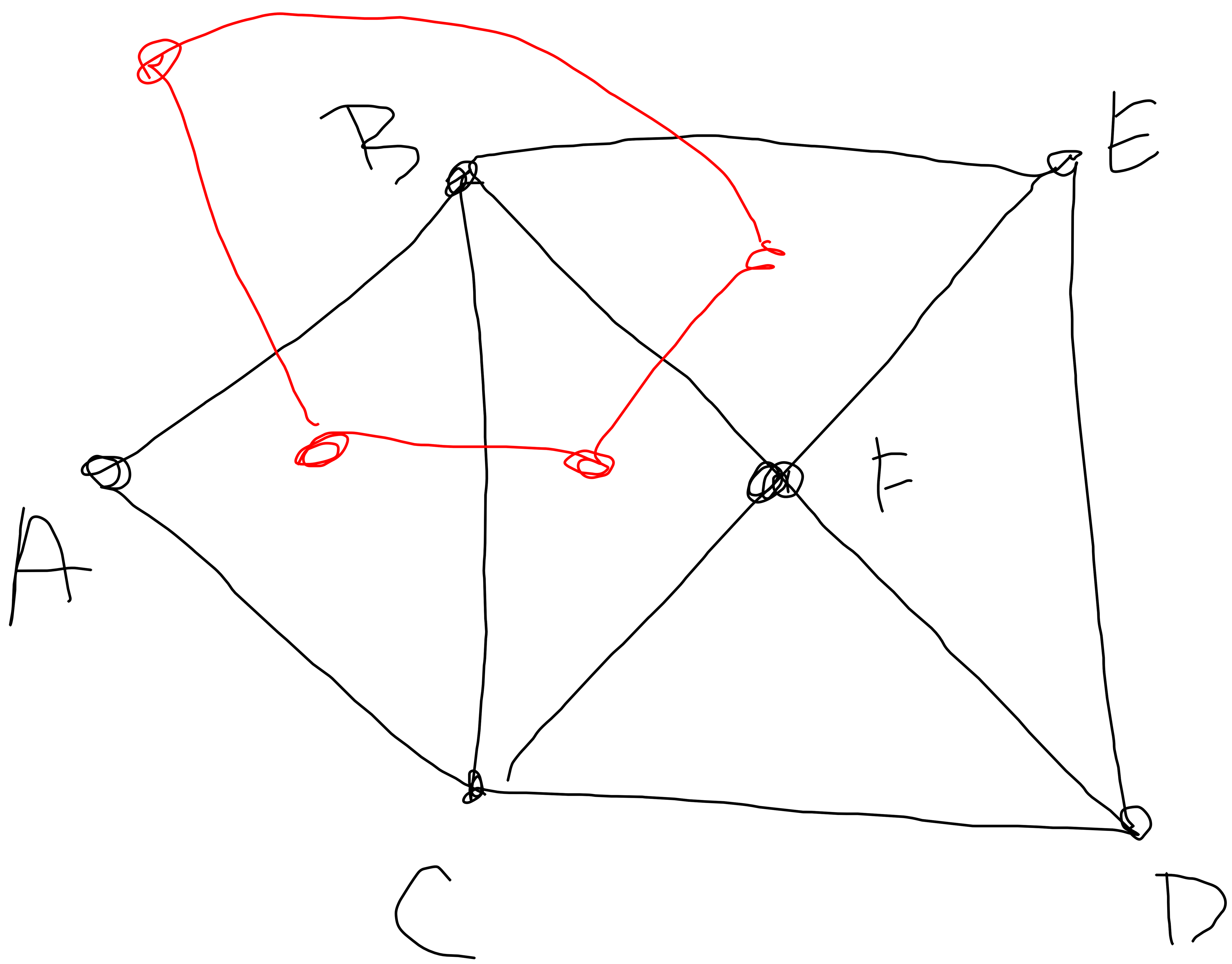




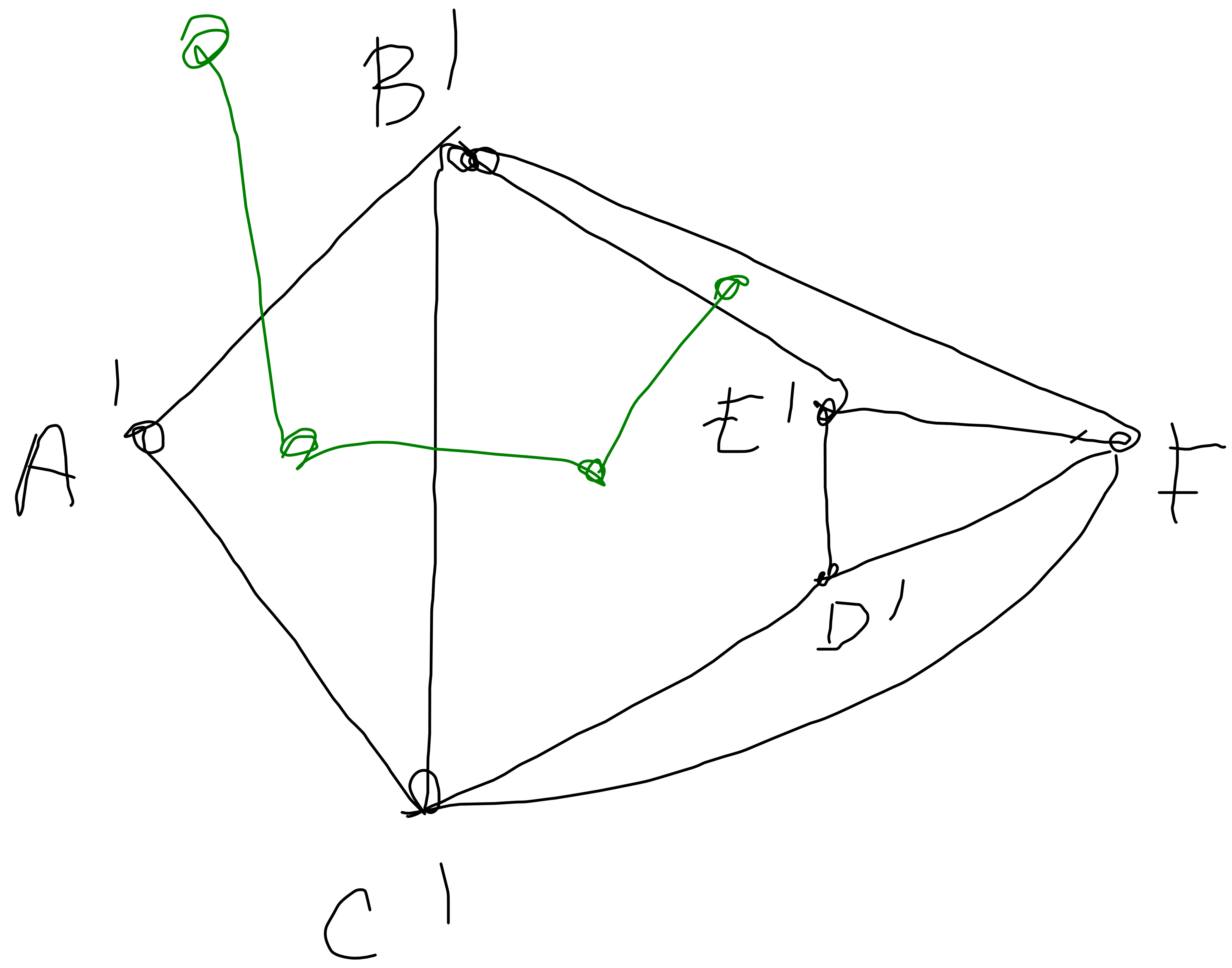



A
V
V
A

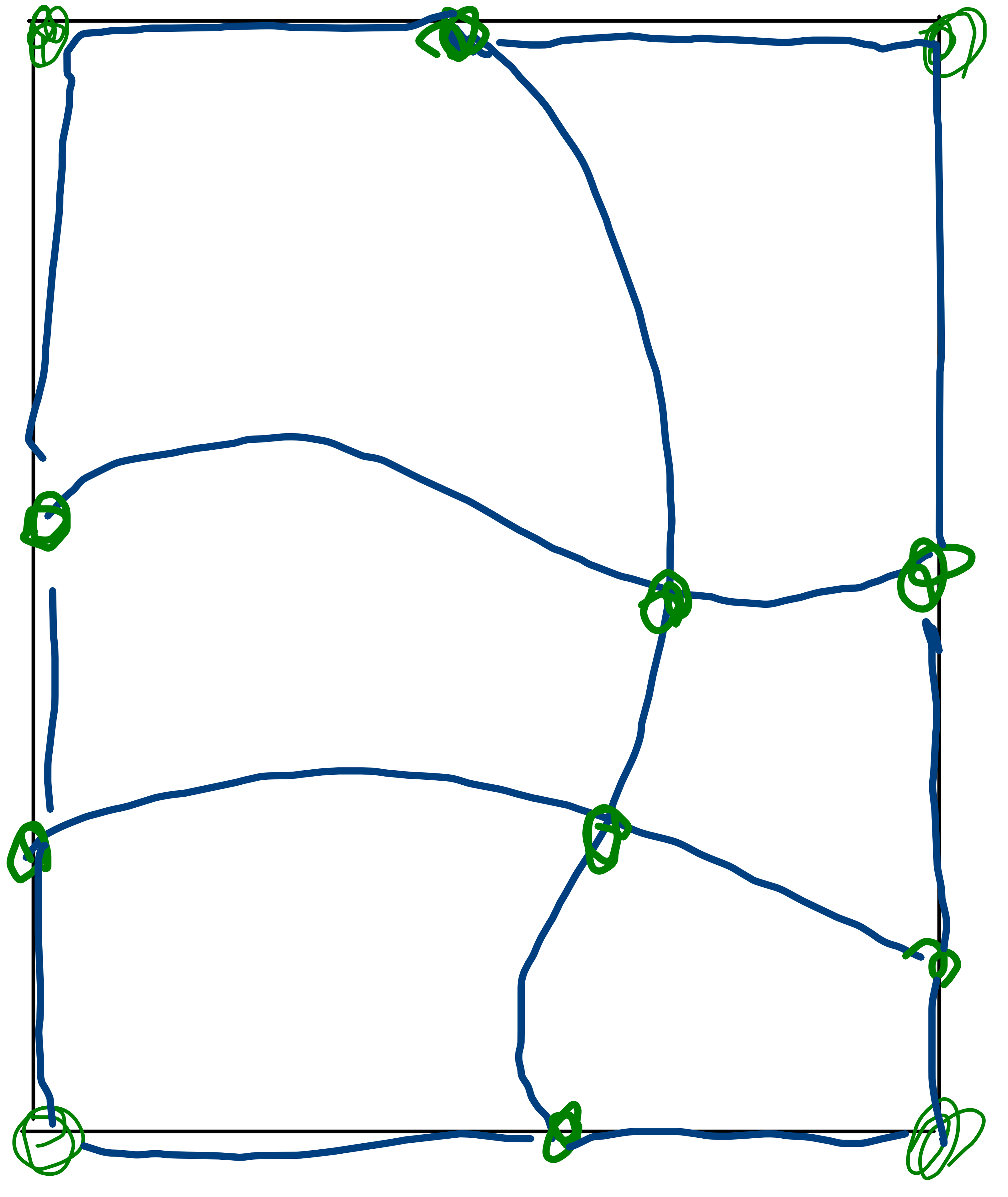

A
V
A
V



A
B
C
D
E
F



A'
B'
C'
D'
E'
F'



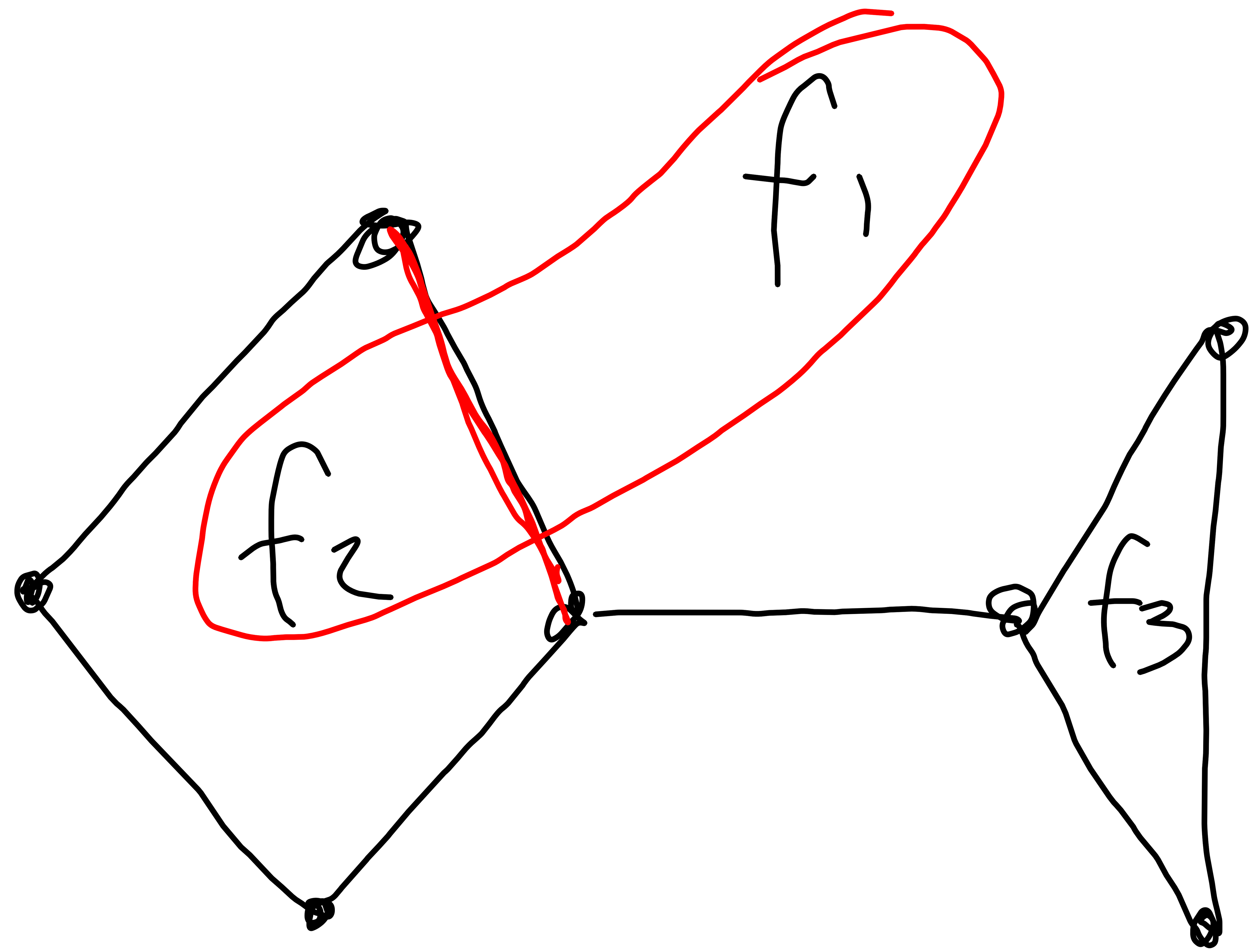
Inductive premise

$\phi(G)=1 \implies G$ is a tree

$$\nu(G)-1=\varepsilon(G)$$

$$\nu(G)-\varepsilon(G)+\phi(G)=\nu(G)-(\nu(G)-1)+1=$$

$$=\cancel{\nu(G)}-\cancel{\nu(G)}+1+1=2$$



$$v(G-e) - \varepsilon(G-e) + \phi(G-e) = 2$$

$$v(G) - (\varepsilon(G) - 1) + (\phi(G) - 1) = 2$$

$$v(G) - \varepsilon(G) + 1 + \phi(G) - 1 = 2$$

$$v(G) - \varepsilon(G) + \phi(G) = 2$$

$d(f_1) \geq 3$

$+ d(f_2) \geq 3 +$

$\vdots$

$+ d(f_\phi) \geq 3 +$

$$\sum_{i=1}^{\phi} d(f_i) \geq 3\phi$$

$$\frac{2\varepsilon}{3} \geq \phi$$

$$\nu - \varepsilon + \frac{2\varepsilon}{3} \geq \nu - \varepsilon + \phi = 2$$

$$\nu - \frac{\varepsilon}{3} \geq 2$$

$$\frac{\varepsilon}{3} \leq \nu - 2$$

$$\varepsilon \leq 3\nu - 6$$

$$\delta \nu \leq 6\nu - 12$$

$$\delta \leq 6 - \frac{12}{\nu}$$