

$$g(t) = \frac{1}{2\pi} \int G(j\omega) e^{j\omega t} d\omega$$

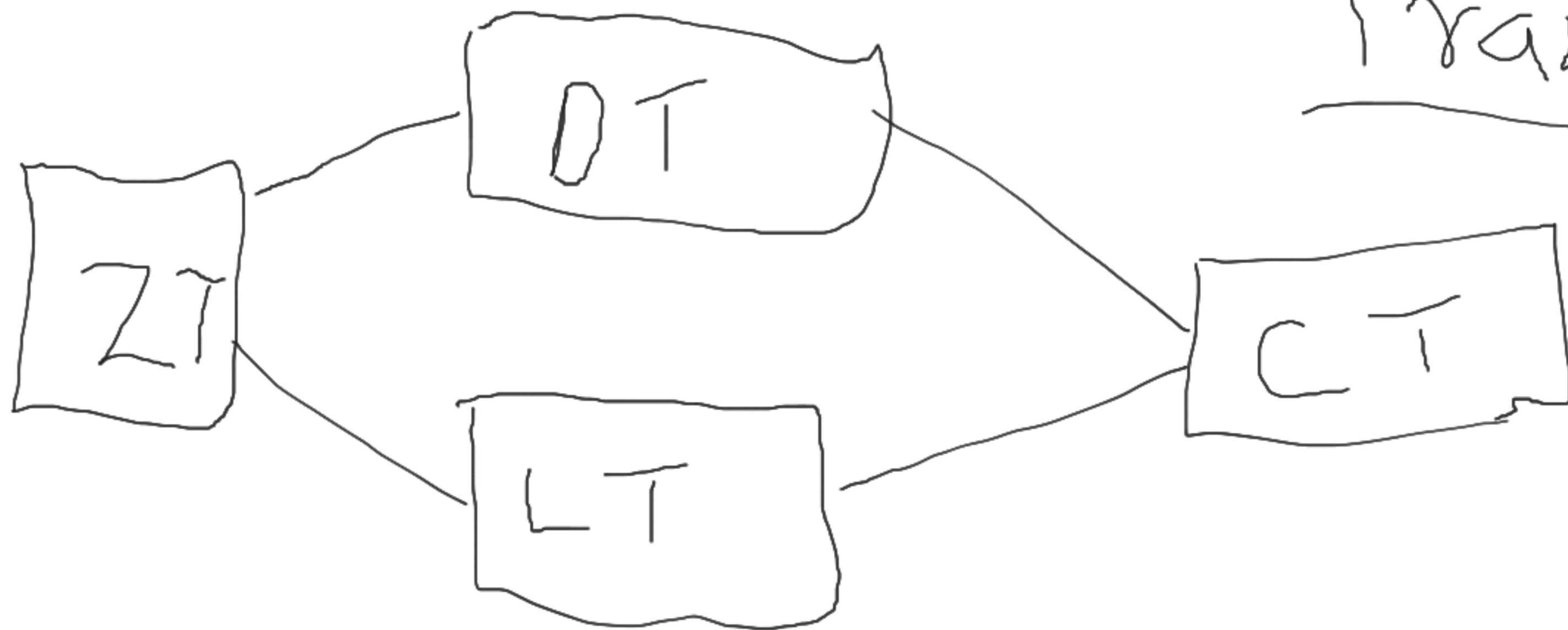
$$g(0) = \frac{1}{2\pi} \int G(j\omega) d\omega$$


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$$\left[ \begin{array}{c} F \\ 10^3 \times \end{array} \right] \left[ \begin{array}{c} 1m \\ 10^3 \times \log_2 10^3 \end{array} \right] \pm 3k \\ = 10k$$

$$2 \left( 2 f_{\frac{m}{2}} + O(m) \right)$$

$$2^2 f_{\frac{m}{2}} + 2 O\left(\frac{n}{2}\right) \\ \qquad \qquad \qquad \underbrace{\hspace{10em}}_{= O(n)}$$



Transf.

OP

$$\frac{1}{s+a}$$

$$\frac{P(s)}{Q(s)} = \underline{H(s)}$$

T.F.

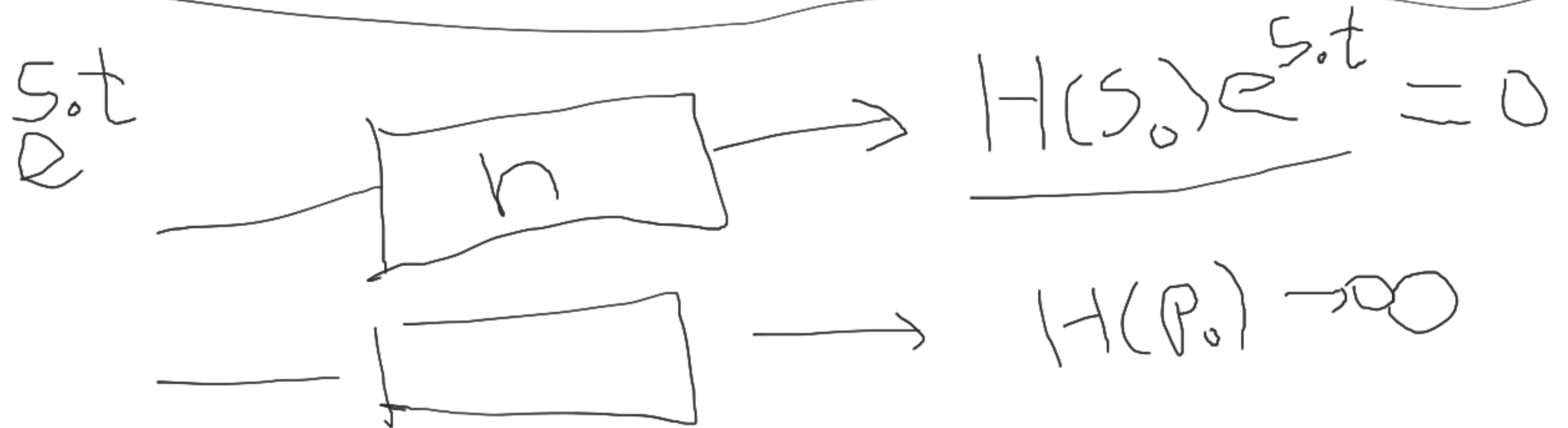
$$\mathcal{L}^{-1} \rightarrow f(t) \quad \mathcal{L} = H(s)$$



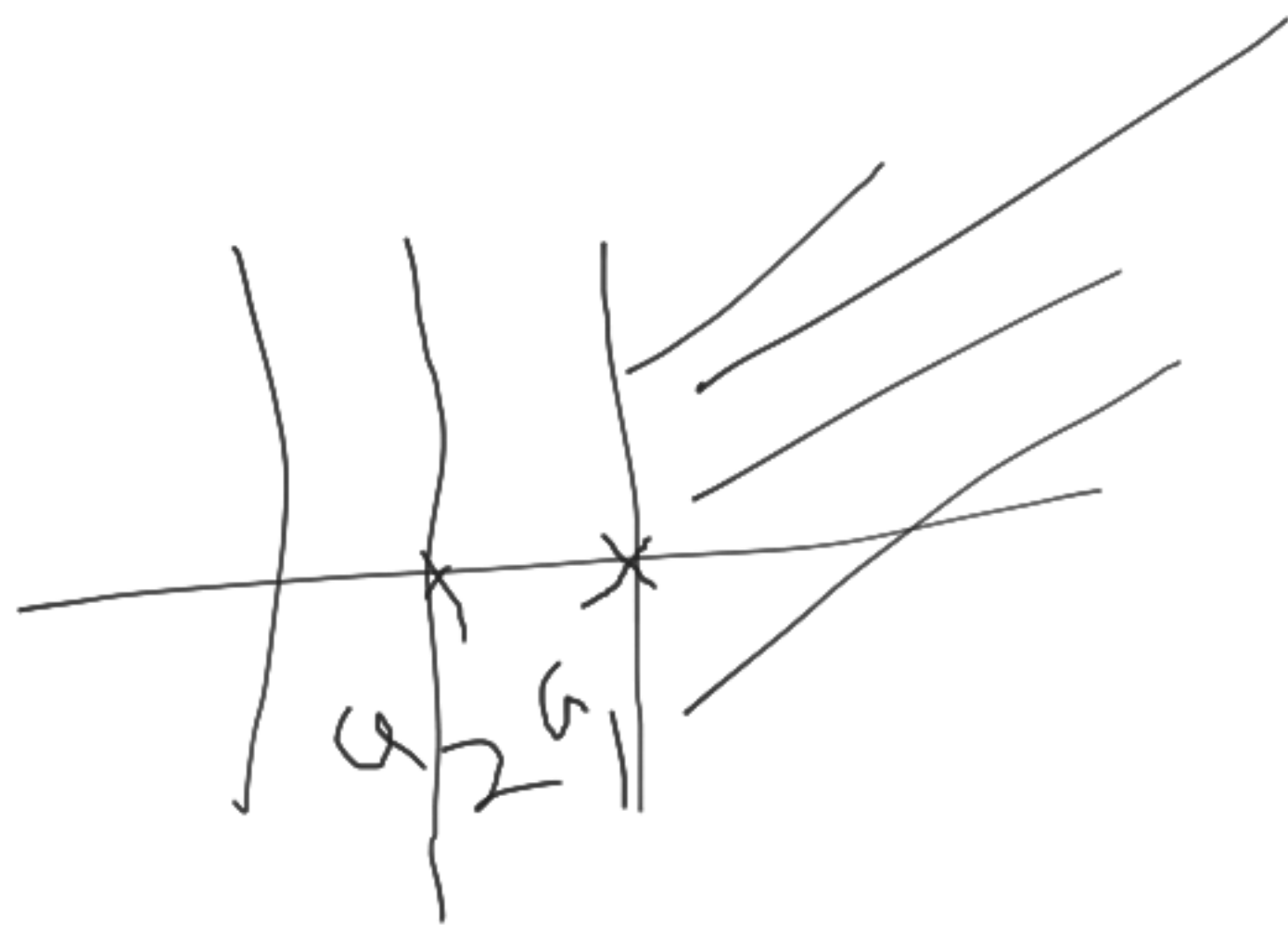
$$y = x * h$$

$$y(s) = x \cdot H$$

roots of  $\{P(s)\} \rightarrow Z$   
 " "  $\{Q(s)\} \rightarrow P$



$$X(s) = \int x(t) e^{-st} dt$$



$$e^{-at}$$

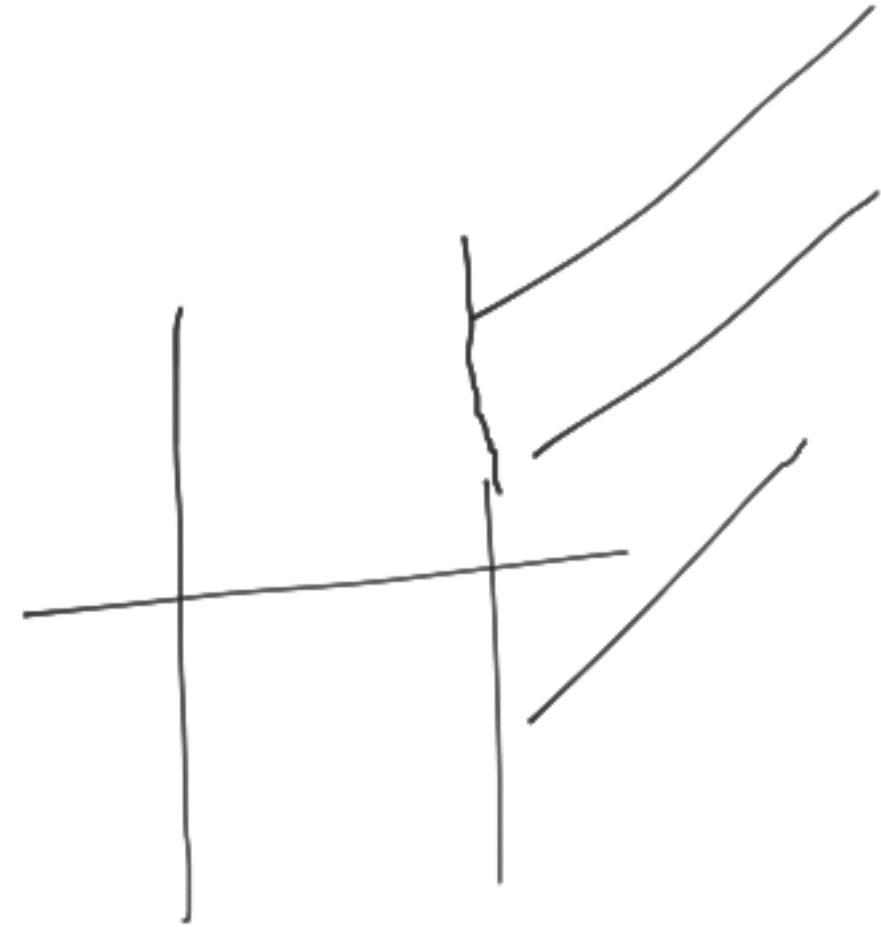
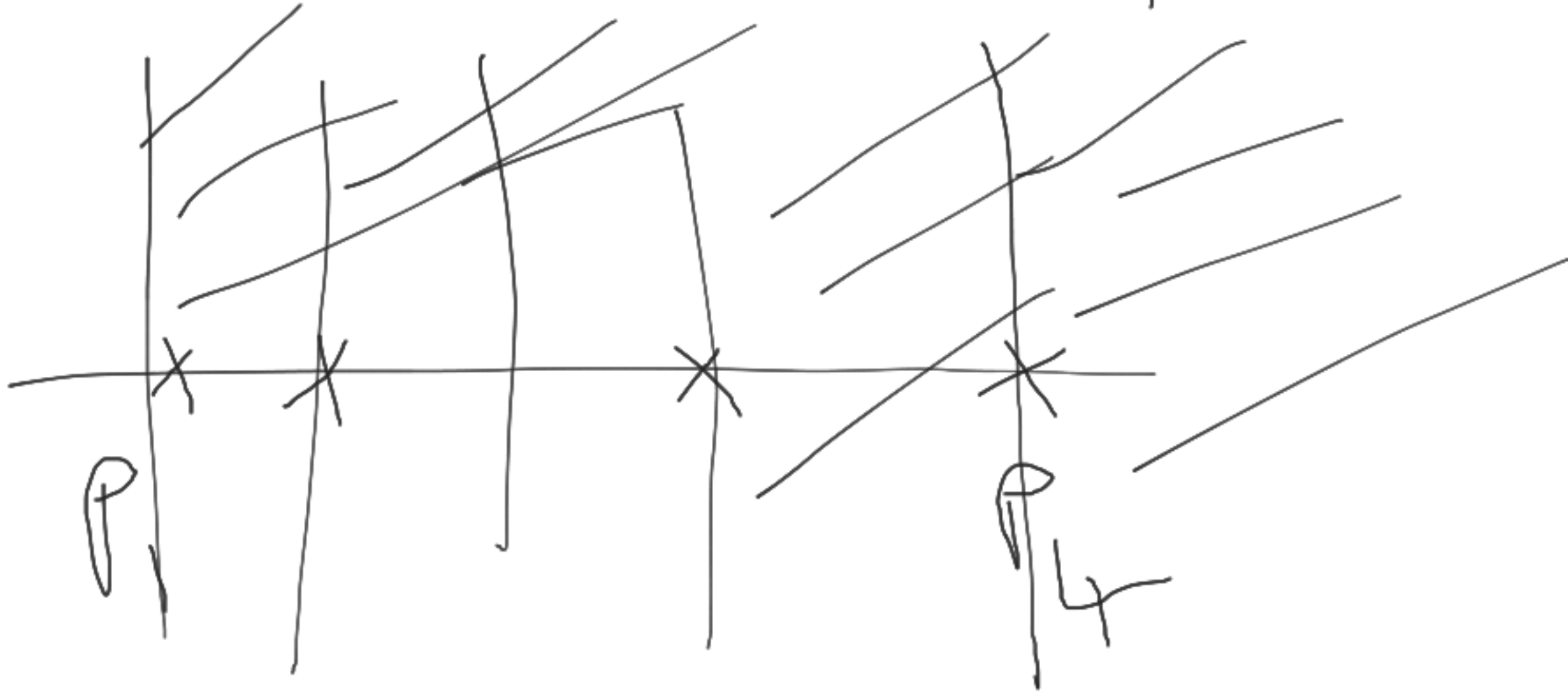
$$e^{-a_1 t} u +$$

$$e^{-a_2 t} u$$

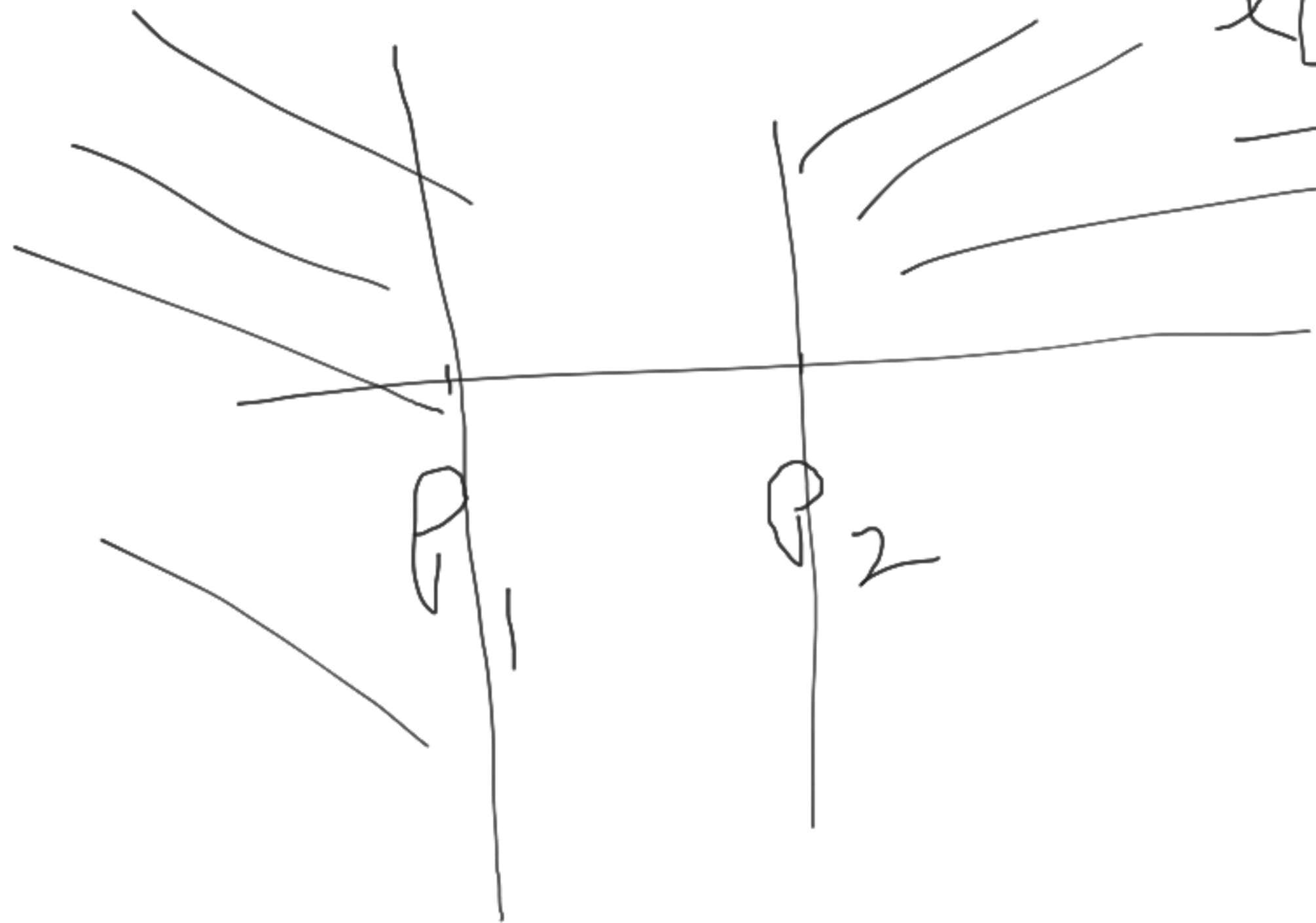
$$H(s) = \frac{\prod_i (s + z_i)}{\prod_i (s + p_i)}$$

$$\prod_i (s + p_i)$$

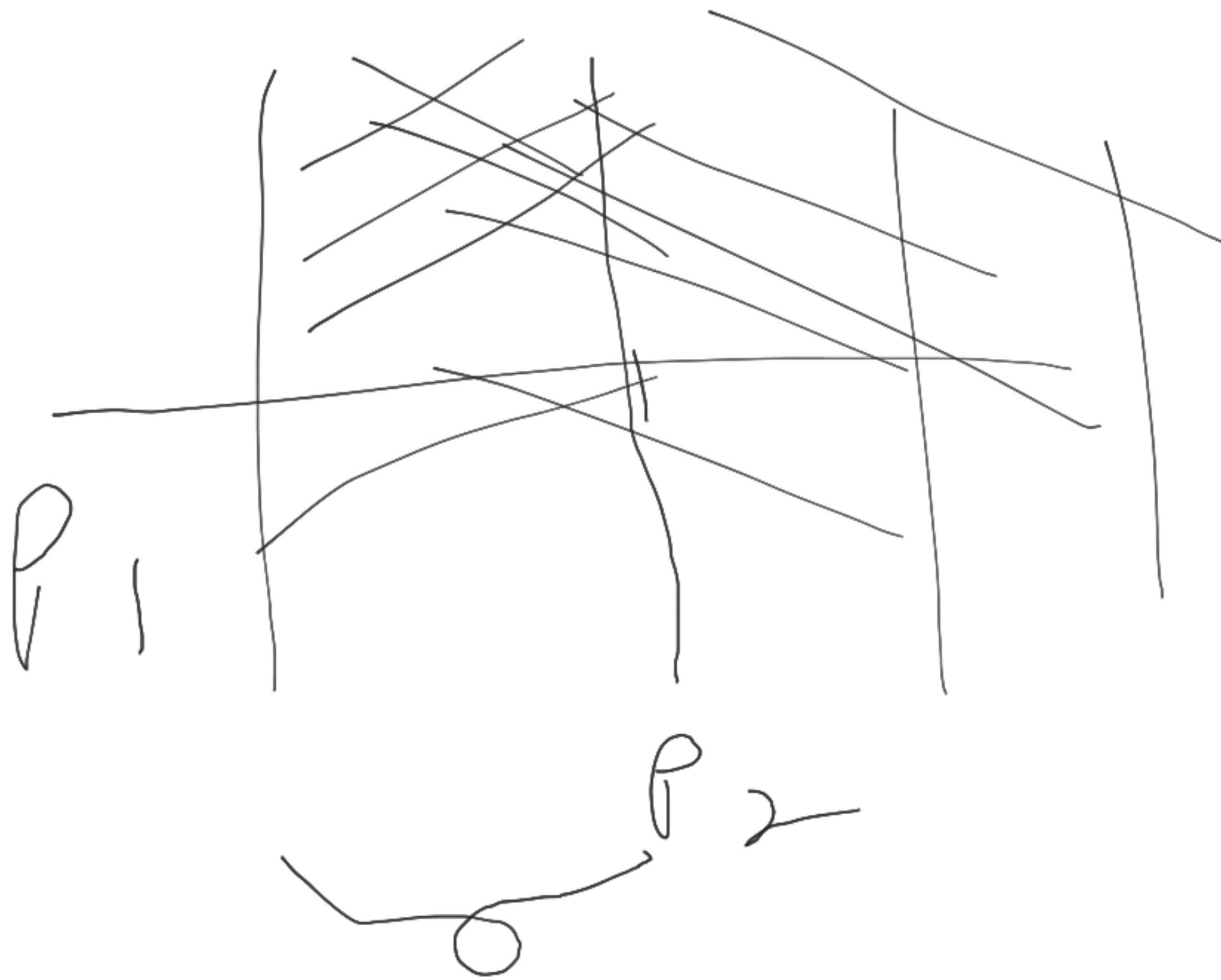
$x(t)$

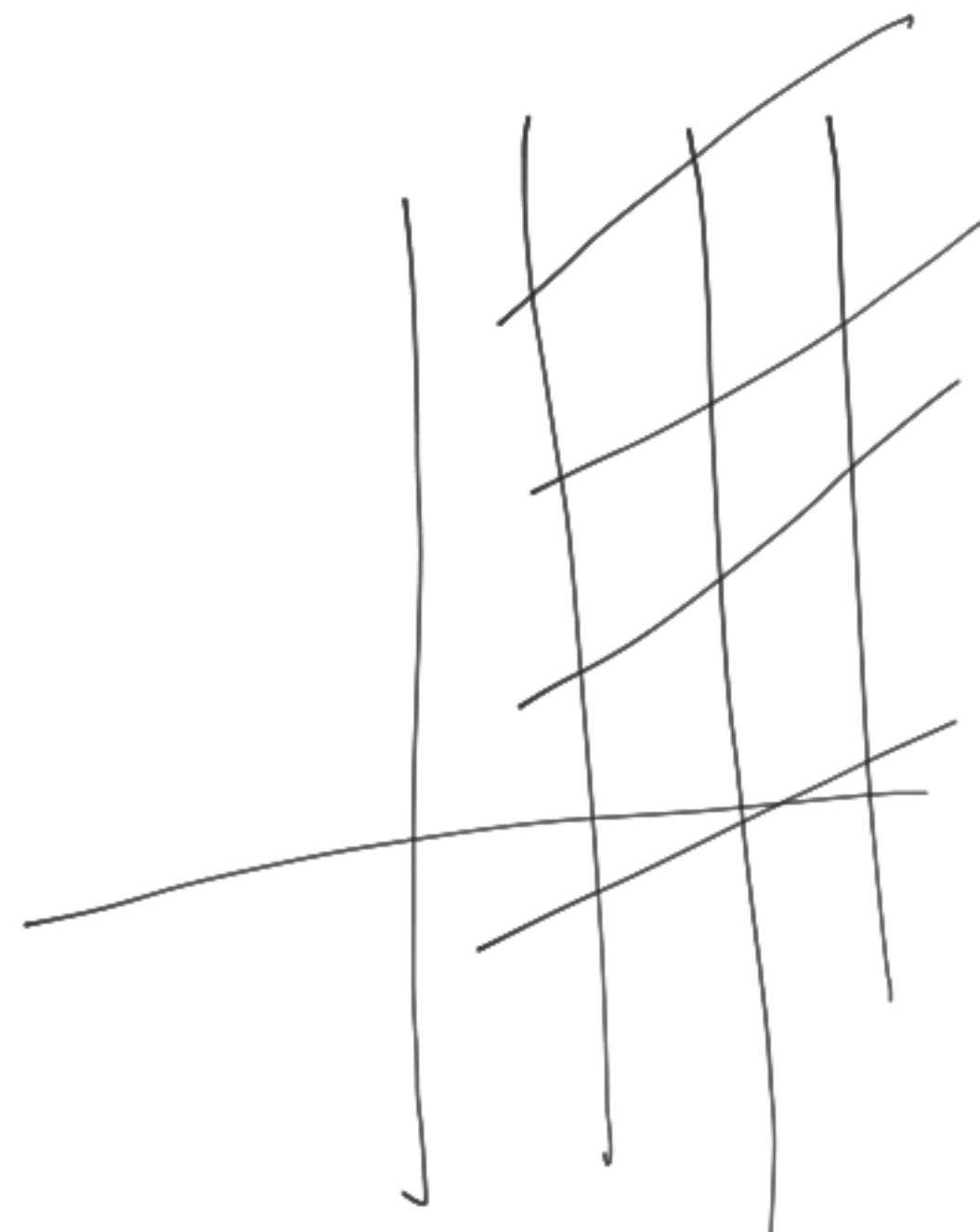
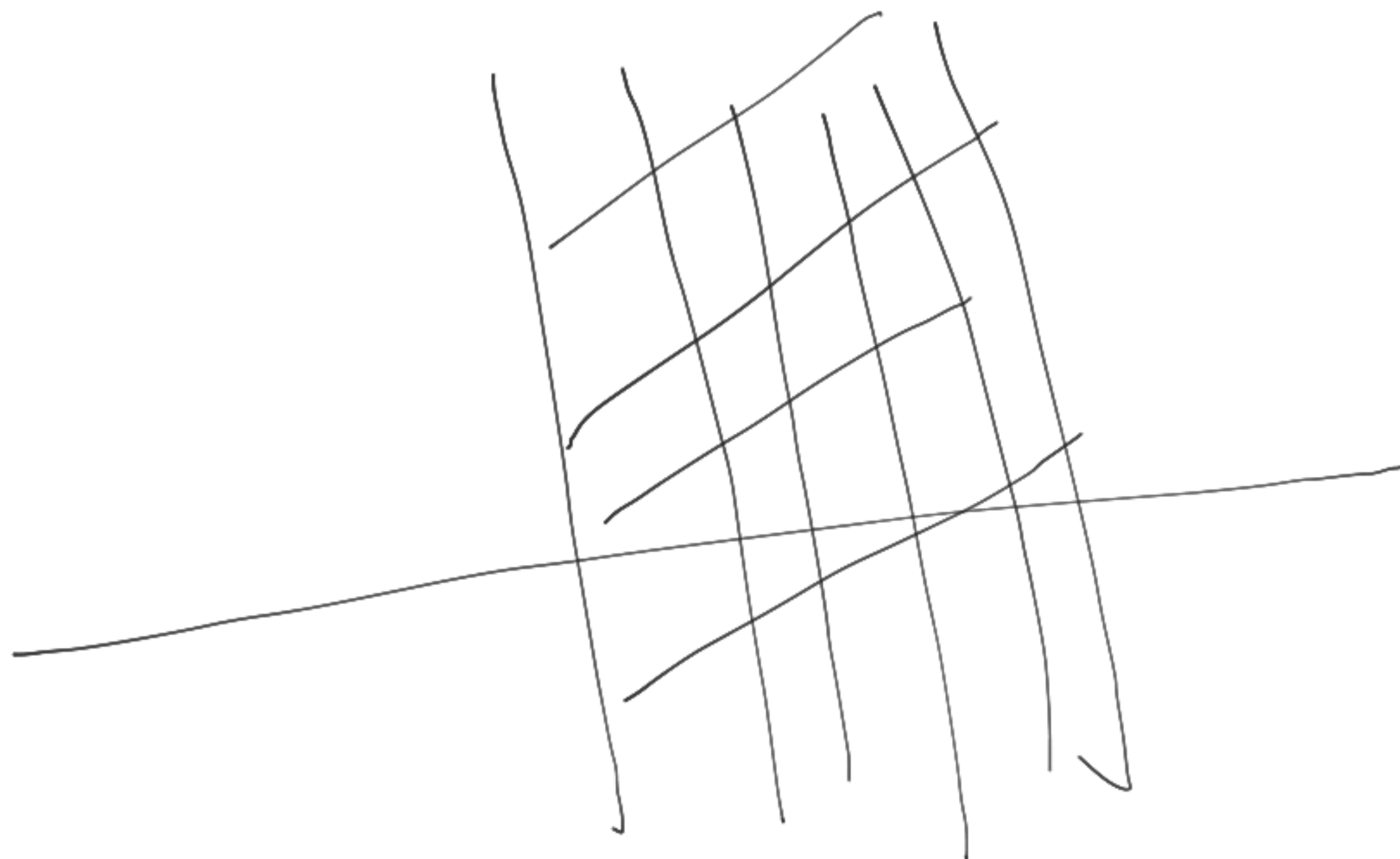


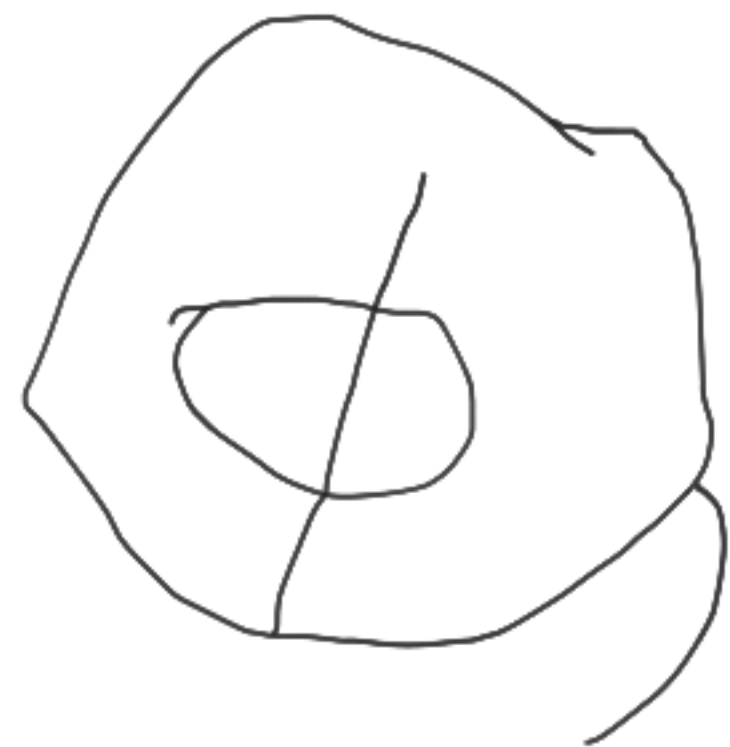
$$x(t) = x_1 + \dots + x_4$$



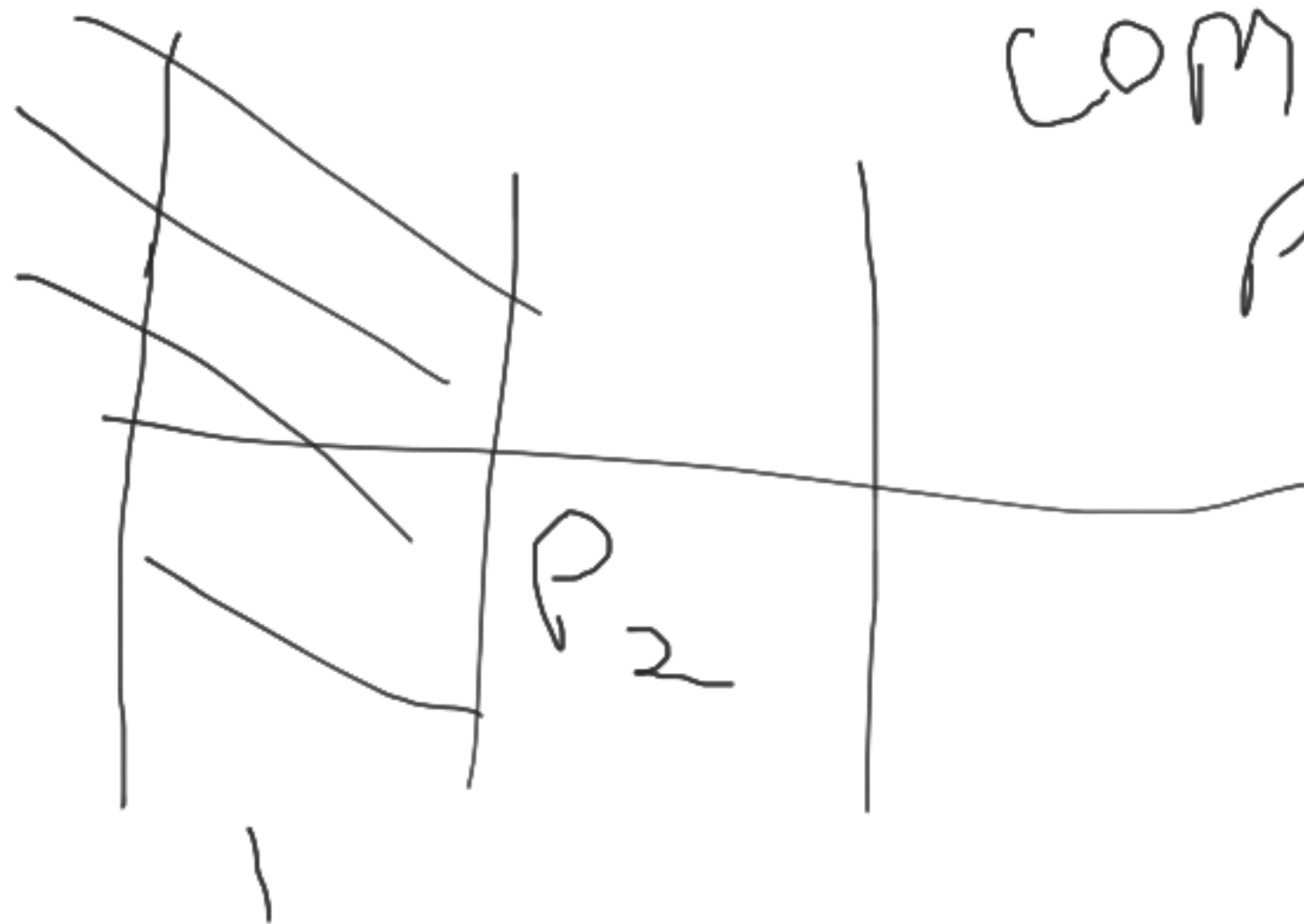
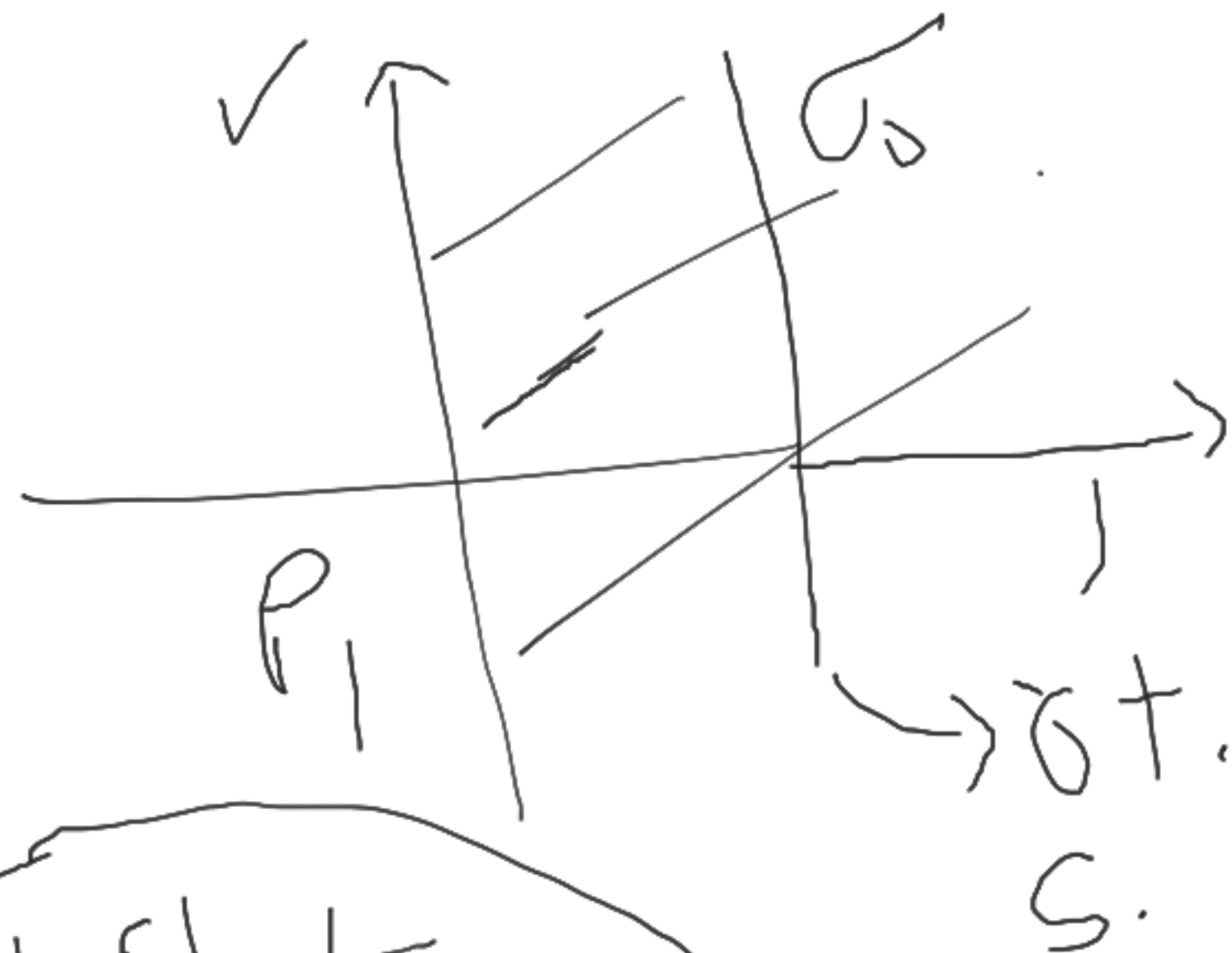








compl.  
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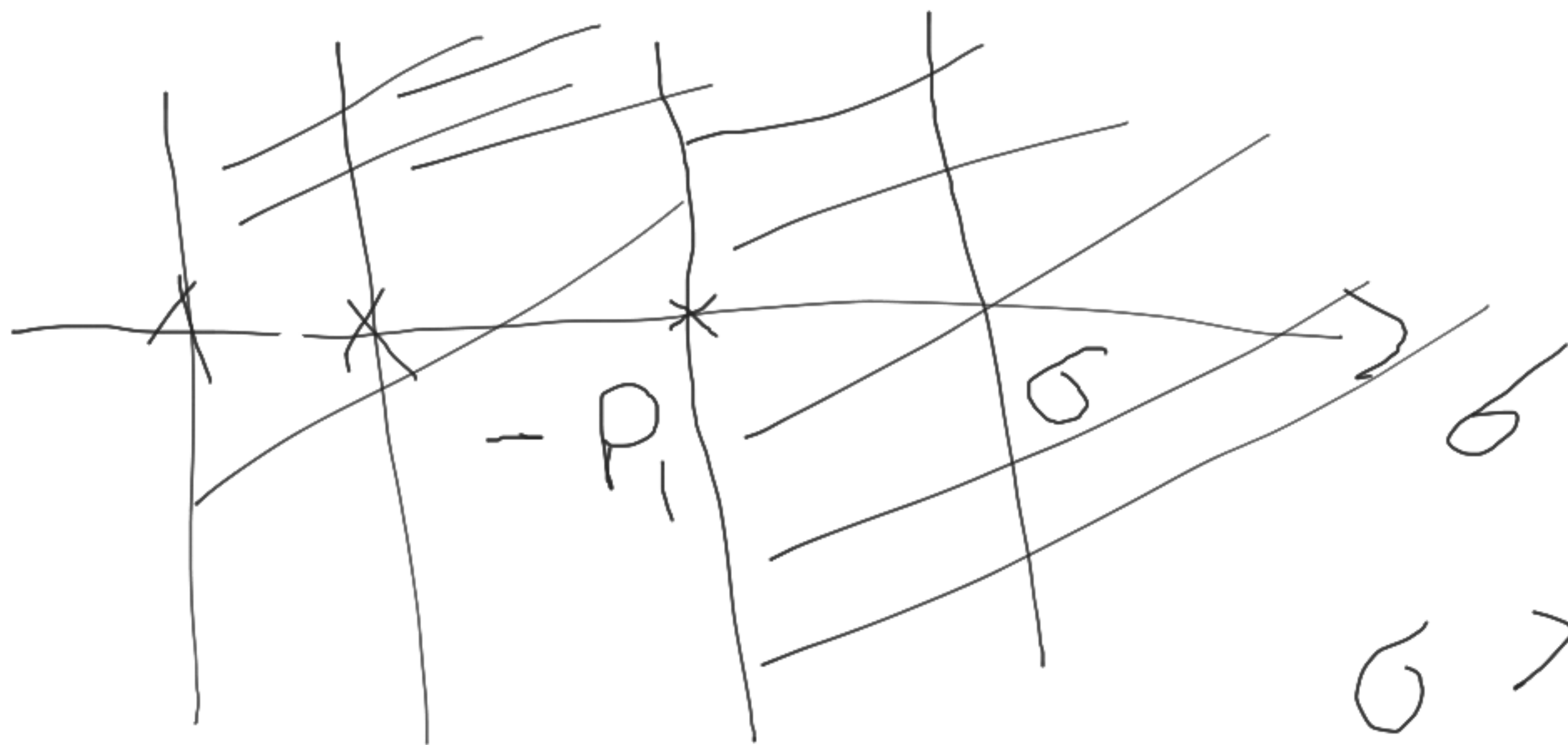


$j\omega$

$X \rightarrow$  CAUS.

$$\frac{1}{s + p_1}$$

$$\operatorname{Re}(s) > -p_1$$



$s$

$x(t)$

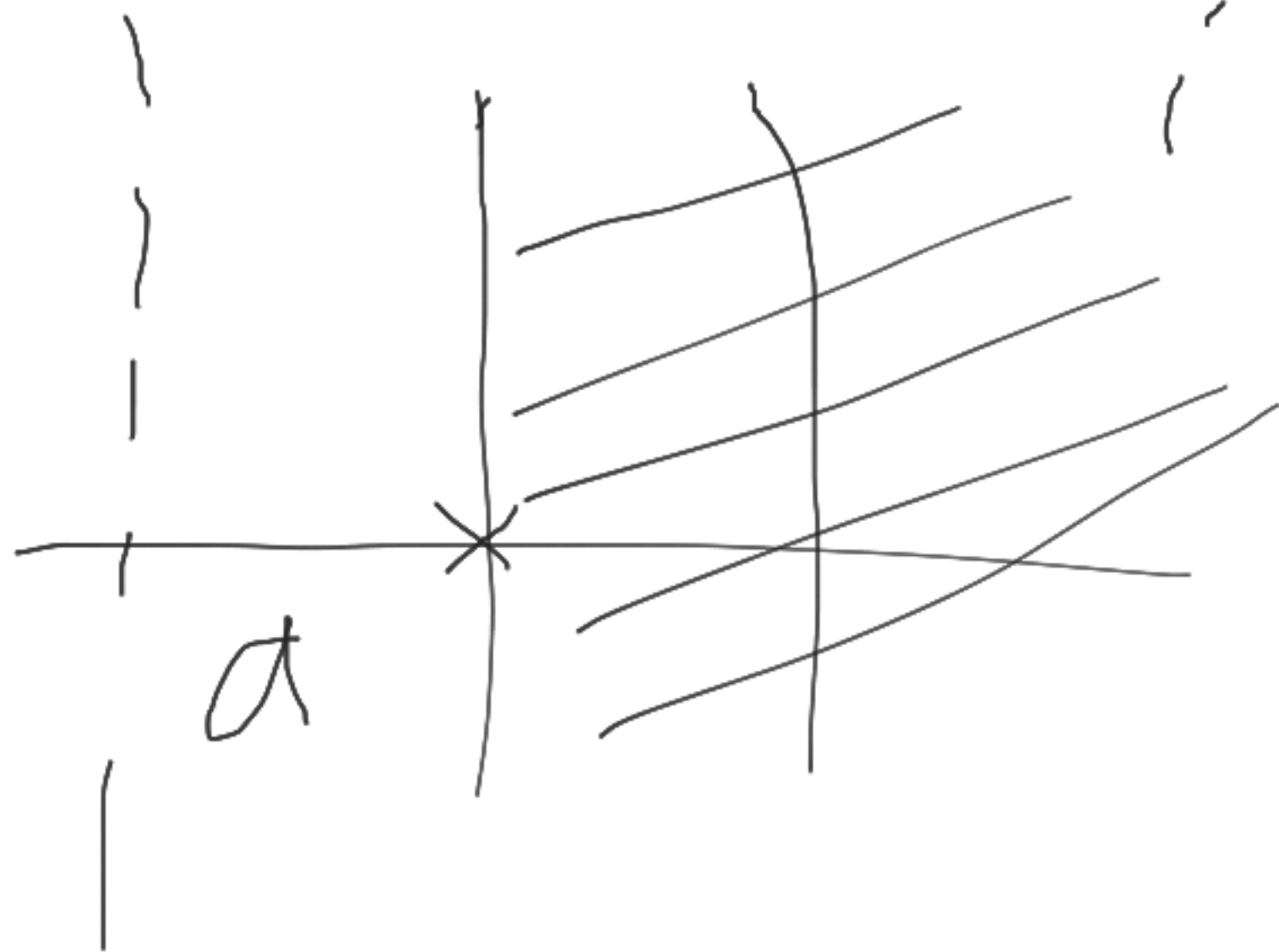
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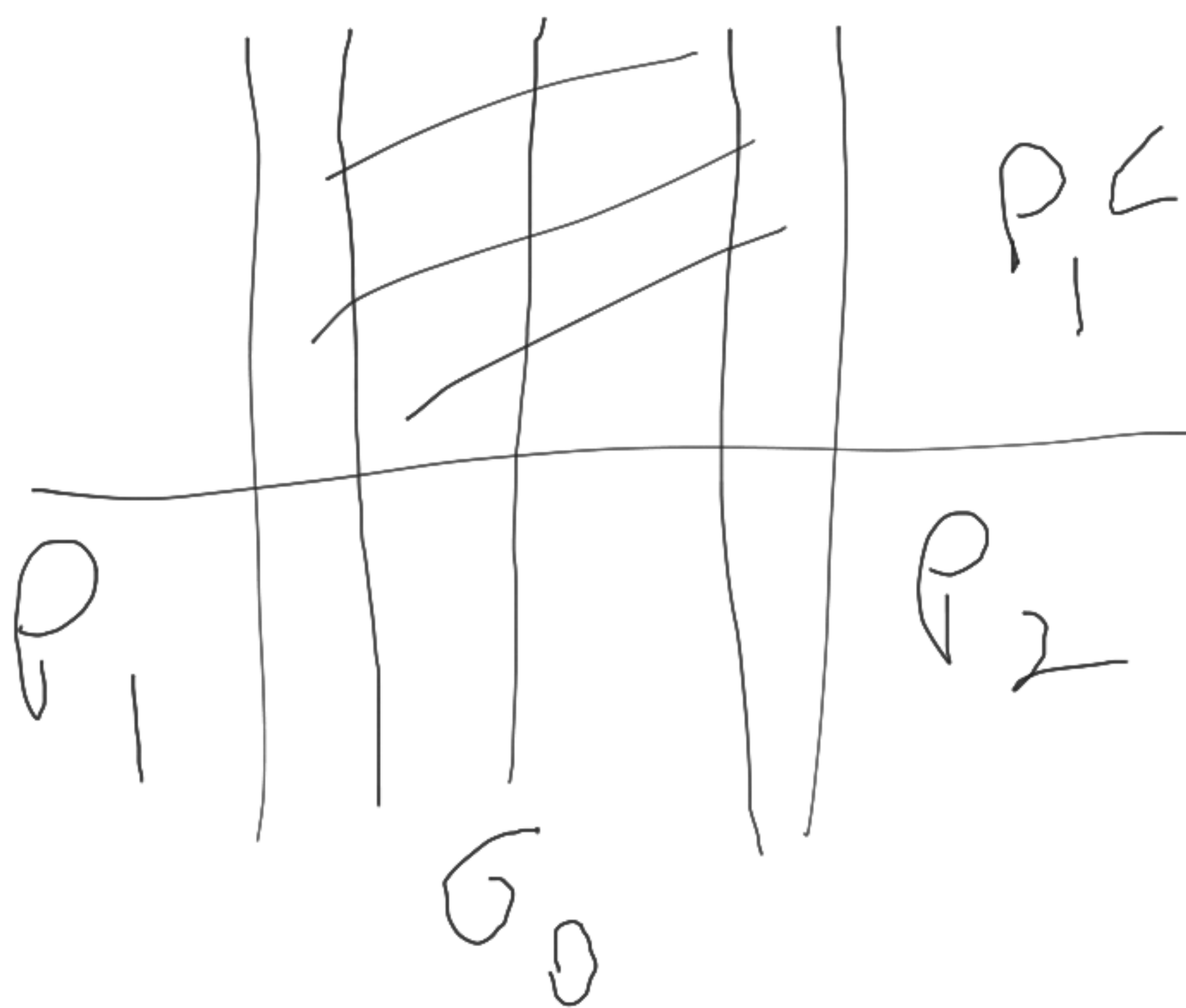
$\underbrace{u(t)}$

$$\int_0^{\infty} e^{-(s-a)t} dt$$

$$\operatorname{Re}(s-a) > 0$$

$$\operatorname{Re}(s) > +a$$





$$P_1 < \text{Re}(S) < P_2$$

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$$x_1 - x_1 = x$$

$$R_1 = R_1$$













