

$$\left[\underbrace{(P \leftrightarrow Q)}_{T_1} \leftrightarrow \underbrace{(R \leftrightarrow S)}_{T_2} \right]$$

$$\left[\begin{array}{l} T_1 \leftrightarrow T_2 \\ \wedge \\ \underbrace{(P \leftrightarrow Q)}_{T_1} \leftrightarrow \underbrace{(R \leftrightarrow S)}_{T_2} \end{array} \right] \quad \text{Div } (4_1, 4_2)$$

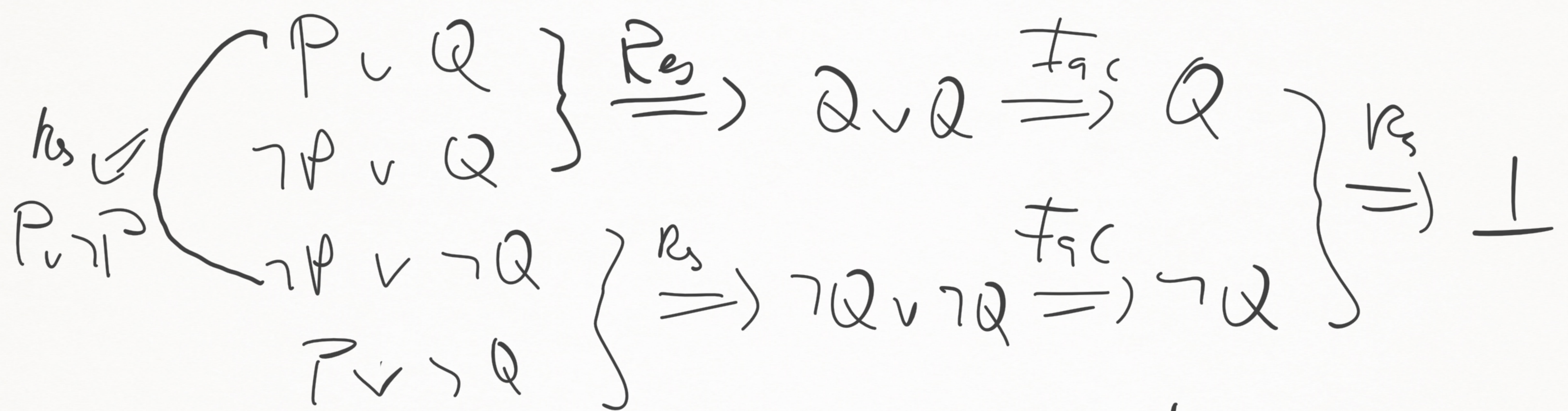
$$\neg (\Phi \leftrightarrow \Psi)$$

$$\neg ((\Phi \rightarrow \Psi) \wedge (\Psi \rightarrow \Phi))$$

$$\neg ((\neg \Phi \vee \Psi) \wedge (\neg \Psi \vee \Phi))$$

$$(\Phi \wedge \neg \Psi) \vee (\Psi \wedge \neg \Phi)$$

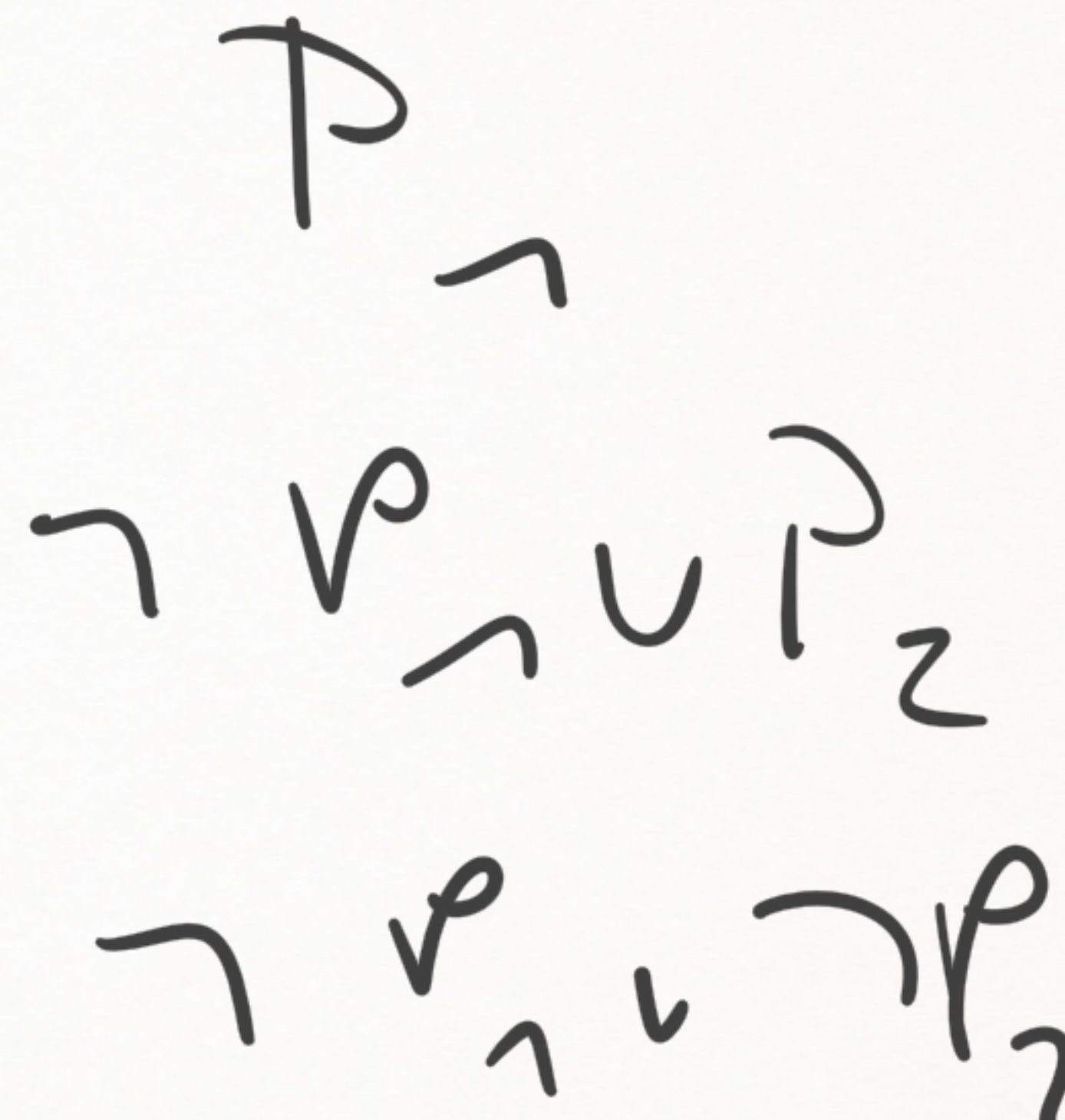
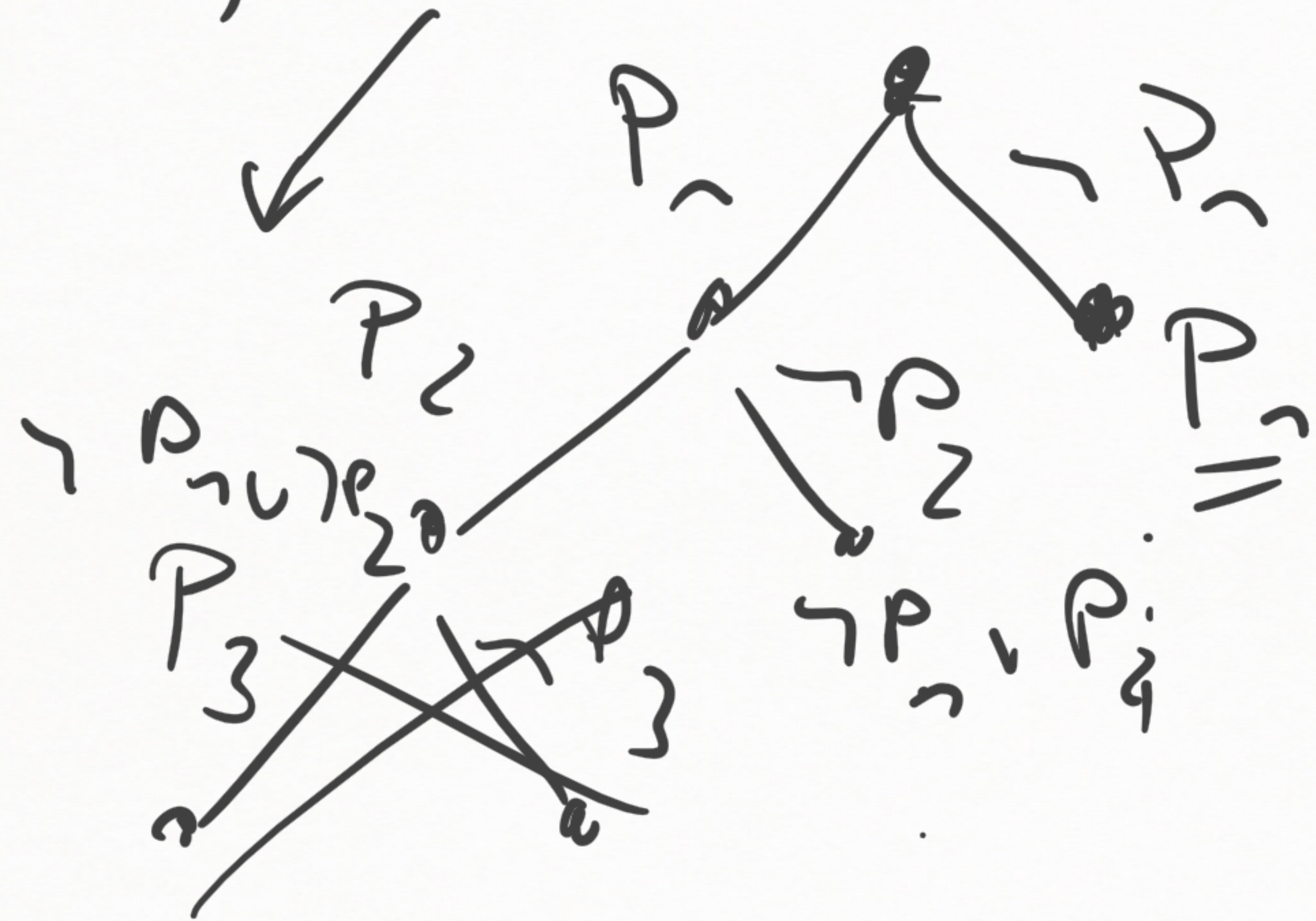
$$(\Phi \vee \Psi) \wedge (\Phi \vee \neg \Phi) \wedge (\neg \Psi \vee \Psi) \wedge (\neg \Psi \vee \neg \Phi)$$



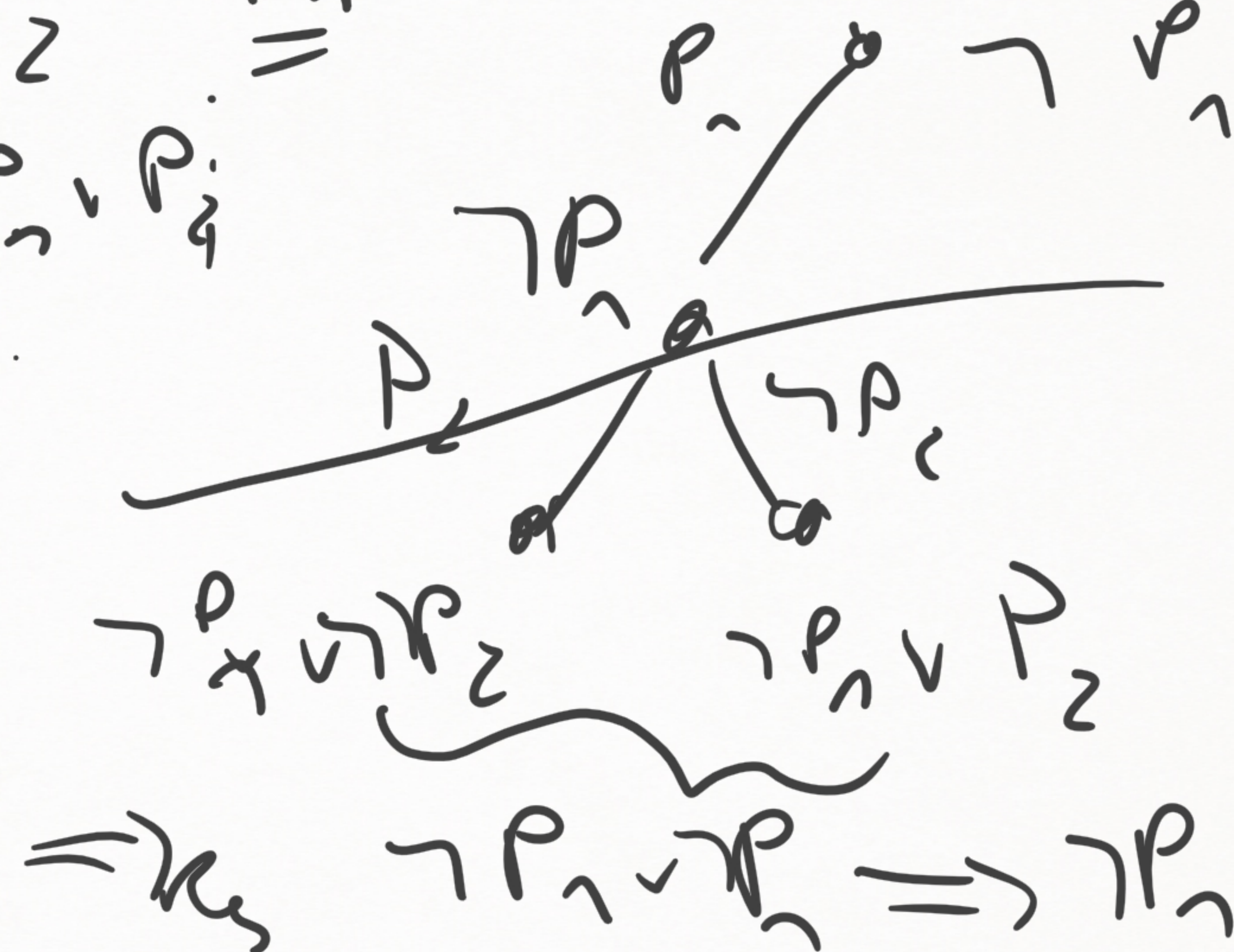
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$\neg \text{unsat}$ then there is $\models_{\mathcal{R}} \perp$

$\neg \text{unsat}, P_1 \dots P_n$



$\left. \begin{matrix} P \vee Q \\ \neg P \vee \neg Q \end{matrix} \right\} \Rightarrow Q \vee \neg Q$



$\Rightarrow_{\mathcal{R}} \neg P_1 \vee P_1 \Rightarrow \neg P_1$

$$(M, N, U, R, \emptyset)$$

$$N = \{P, Q\}$$

$$(\varepsilon, N, \emptyset, O, T)$$

$$\Rightarrow \text{Decide } (P^1, N, \emptyset, \perp, T)$$

$$\rightarrow \{P, Q\}$$

$$\Rightarrow \text{Prop } (P^1, Q, N, \emptyset, \perp, T) \xrightarrow{P, Q} (P^1, Q, N, \dots)$$

$$\Rightarrow \text{Conflict } (P^1, Q, N, \emptyset, \perp, \{P, Q\}) \xrightarrow{P, Q} (P^1, N, \dots, P)$$

$$\Rightarrow \text{Res } (P^1, N, \emptyset, \perp, \{P\}) \xrightarrow{P} (\varepsilon, N, \dots, T)$$

$$\Rightarrow \text{Base } (\{P\}, N, \{P\}, O, T)$$

