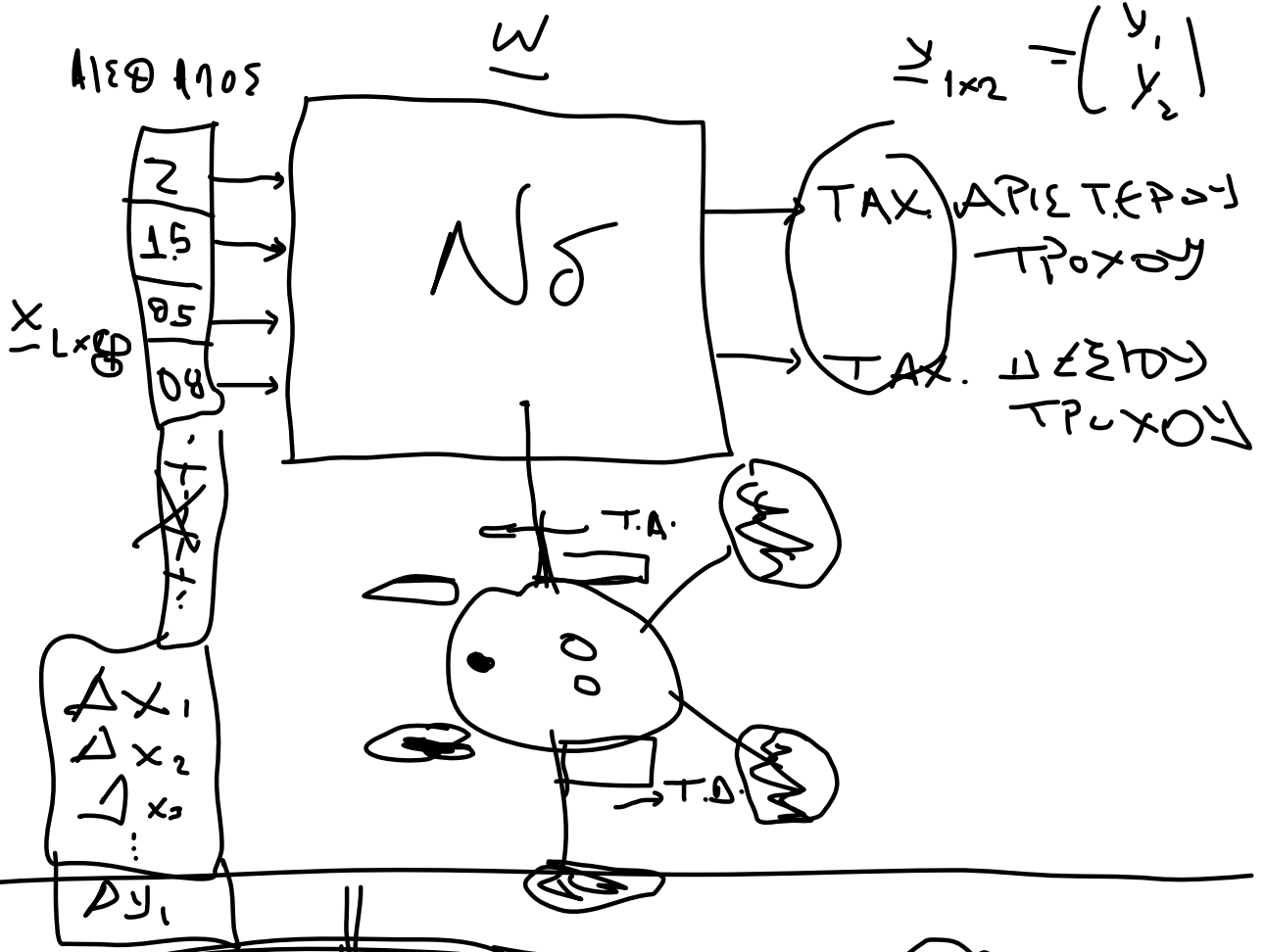


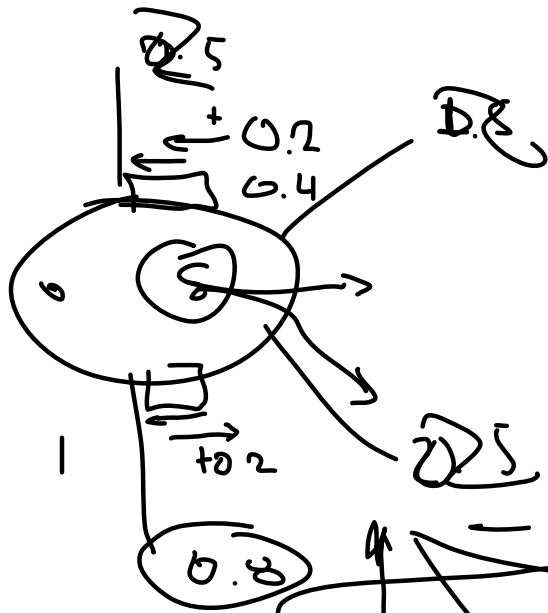
ΝΕΥΡΩΝΙΚΑ ΔΙΚΤΥΑ



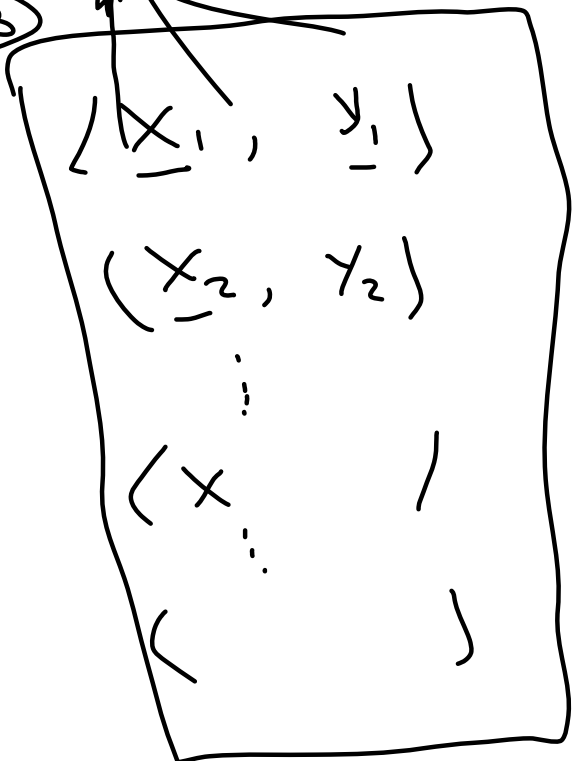
$$Y_{1 \times 2} = X_{L \times 1} W_{1 \times 2}$$

ΔΕΝ ΕΙΝΑΙ ΤΑΥΤΩΣ

$$P(\underline{w}) = \sum_{i=1}^N \left\| \begin{pmatrix} x_{i1} \\ x_{i2} \end{pmatrix} \underline{w} - y_i \right\|^2 = \sum \varphi(\underline{w}) \Rightarrow$$



- 1) $|A_i| = 0.2$
- 2) $-1 - +0.2 - 0.2$



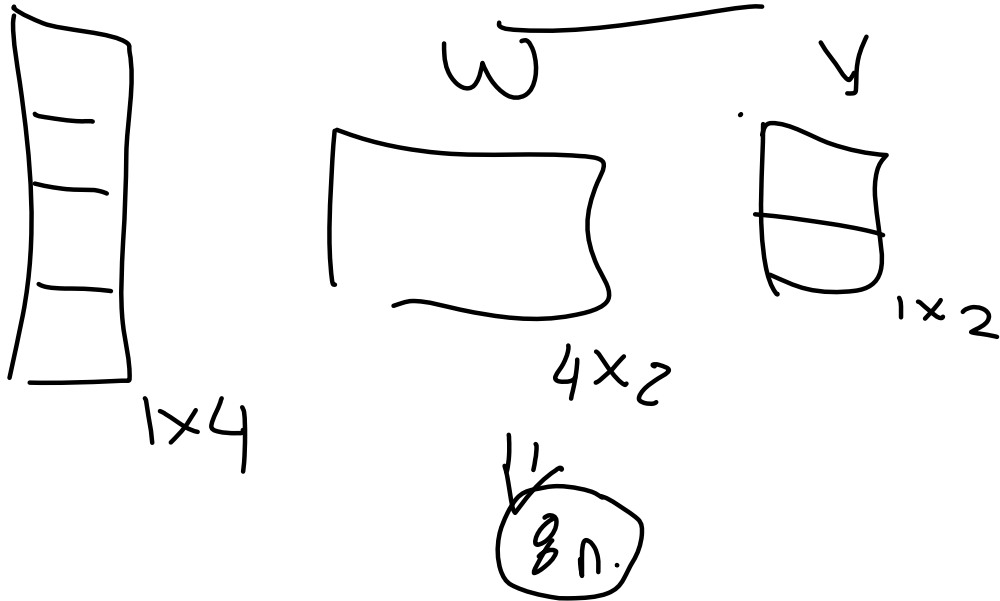
1225

$$y_A = \sum_{i=1}^4 w_{Ai} x_i$$

$$\begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \dots x$$

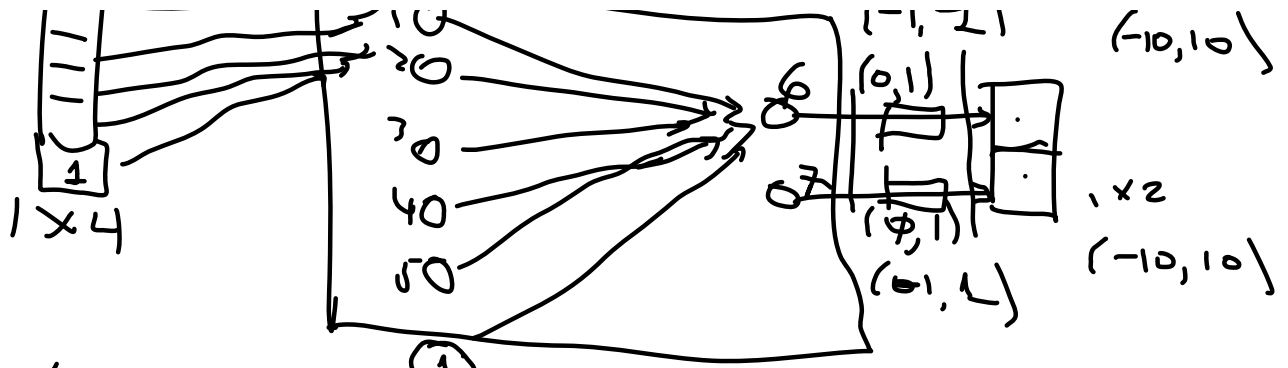
$$\begin{bmatrix} y_1 \\ y_2 \end{bmatrix}_{1 \times 2} = \begin{bmatrix} x_1 & x_2 & \cancel{x_3} & x_4 \end{bmatrix} \begin{matrix} W \\ \begin{bmatrix} 0.1 & -0.1 \\ 0.3 & \textcircled{-3} \\ \cancel{0} & \cancel{0} \\ 0.4 & 0.2 \end{bmatrix}_{4 \times 2} \end{matrix}$$

ΓΡΑΜΜΙΚΟ



ΜΗ - ΓΡΑΜ. $M \rightarrow N.A$





$$5 \times 5 = 25$$

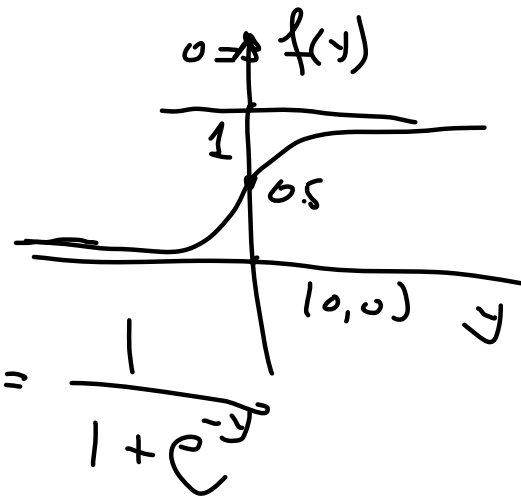
$$6$$

$$2 \times 6 = 12$$

$$25 + 12 = 37$$



$$y = \underline{w}^T \underline{x}$$



$$o = f(y) = \frac{1}{1 + e^{-y}}$$

$$(-10, 10) \quad (0, 1)$$

$$y = \alpha o + \beta \implies \beta = -10$$

$$\beta = -10 \implies 10 = \alpha \cdot 1 - 10 \implies$$

$$\alpha = 20$$

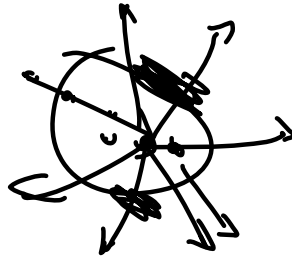
$$y = 20o - 10$$

$$5 = 20 \cdot o - 10 \implies$$

$$o = \frac{15}{20}$$

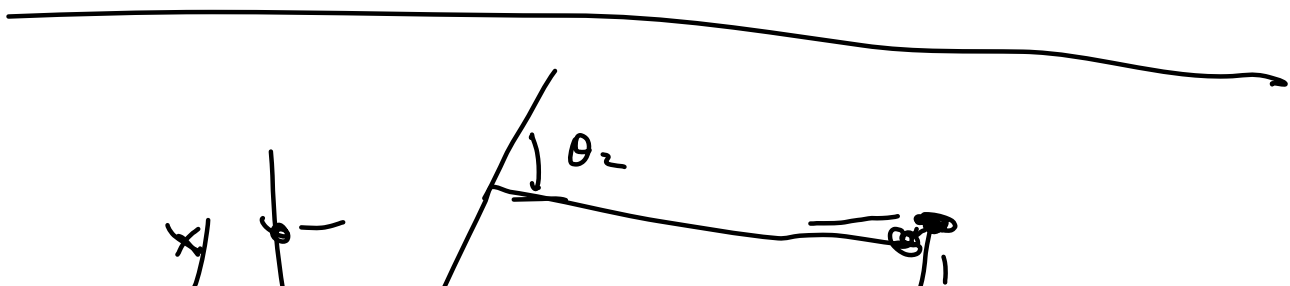
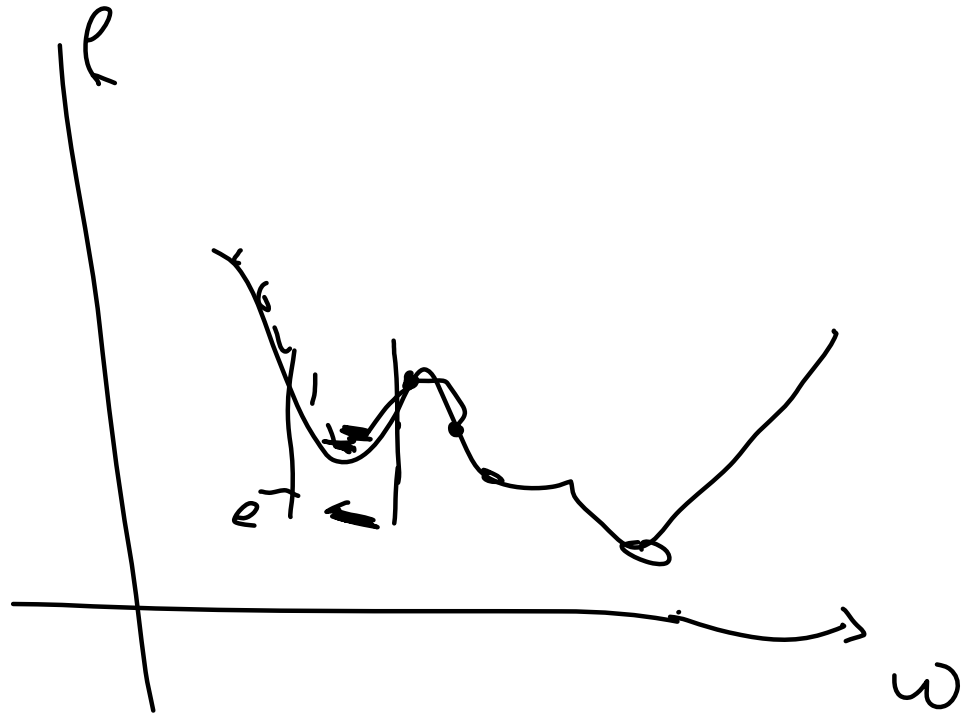
$$\tanh(x)$$

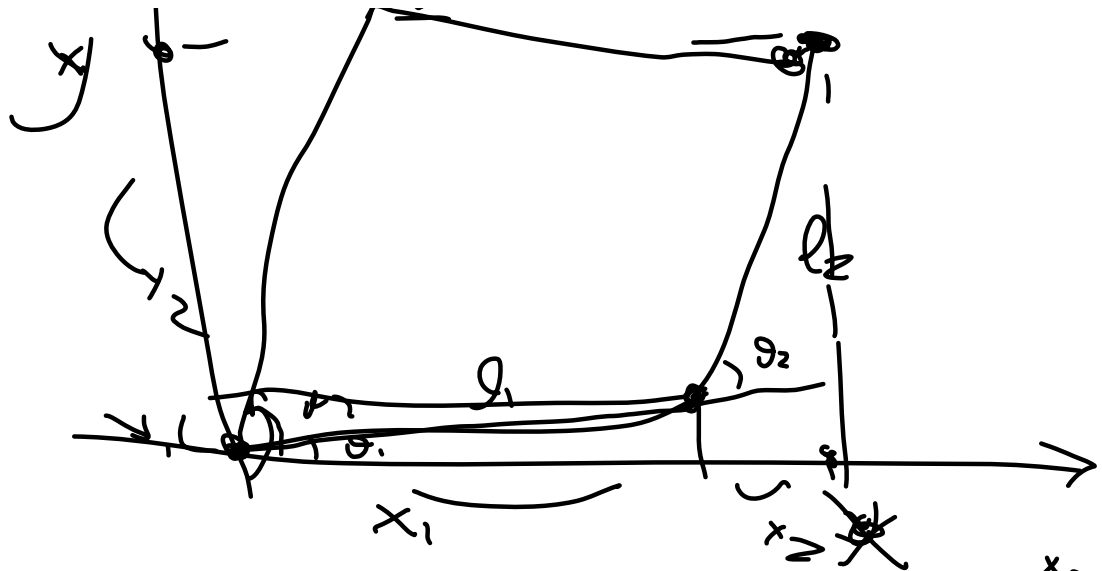
$$(-10, 10)$$



$$\underline{f(x)} \rightarrow \underline{x}_b$$

$$|\underline{x}_b - \underline{x}| < \epsilon(t)$$





$$\begin{pmatrix} x \\ y \end{pmatrix} = f(\underline{\theta}) = \begin{pmatrix} l_1 \cos \theta_1 + l_2 \cos(\theta_1 + \theta_2) \\ l_1 \sin \theta_1 + l_2 \sin(\theta_1 + \theta_2) \end{pmatrix}$$

⇓ ANTI-ETP.

$$\begin{pmatrix} \theta_1 \\ \theta_2 \end{pmatrix} = f^{-1} \begin{pmatrix} x \\ y \end{pmatrix}$$

