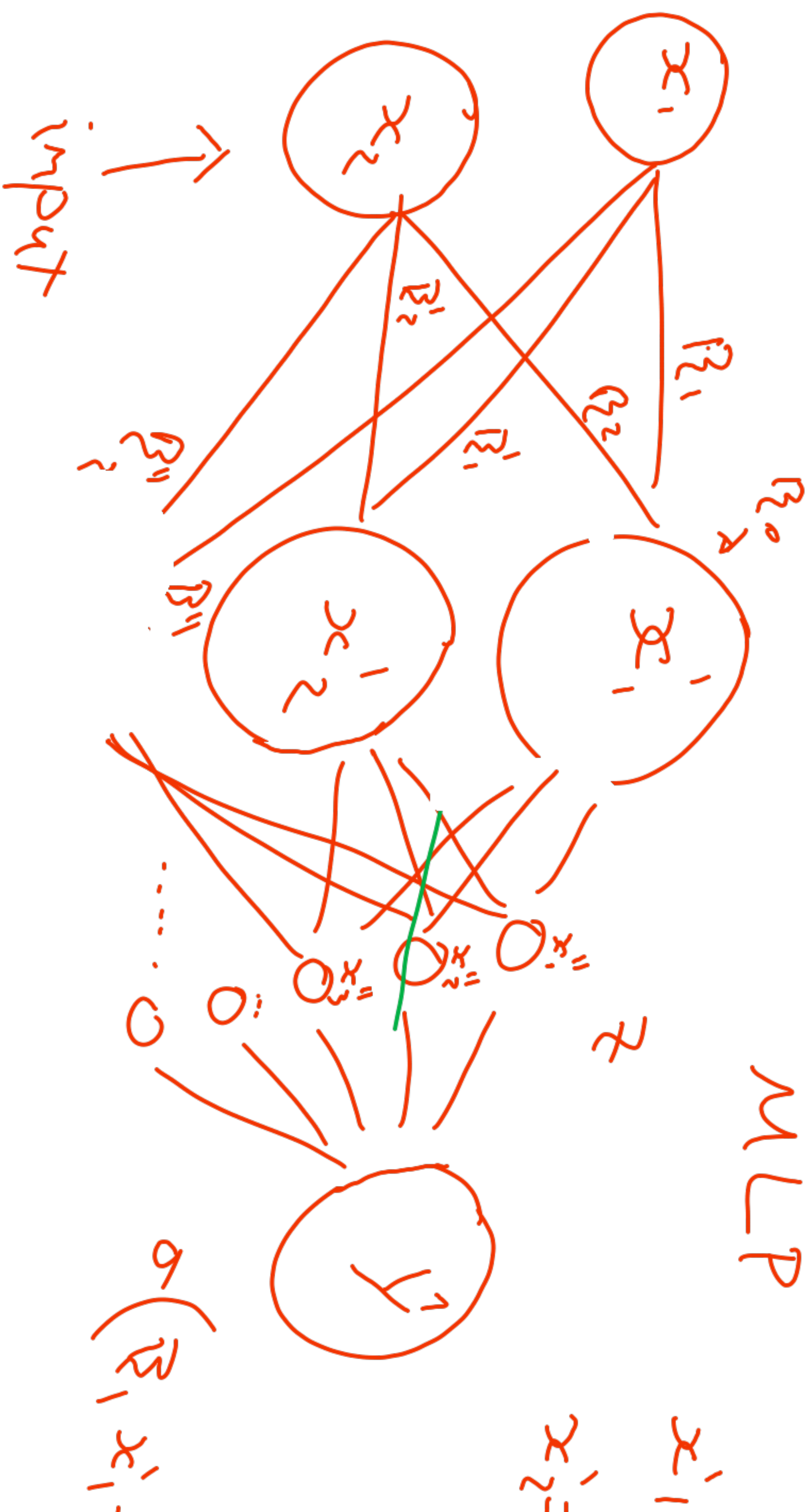


MLP

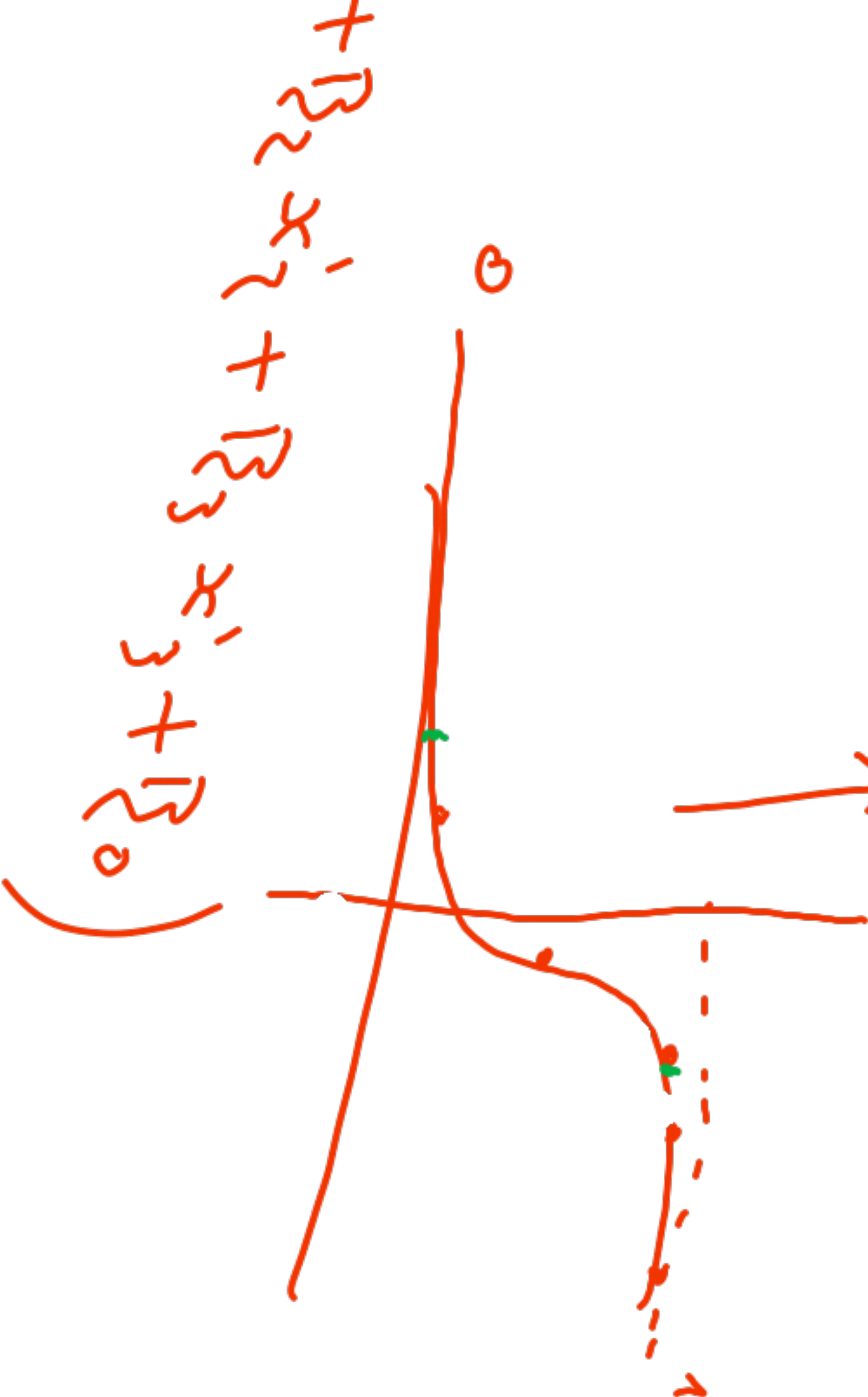


0 0

$$= (\beta_1 \cdot x_1 + \beta_2 \cdot x_2 + \beta_0)$$

$$= (\beta'_1 \cdot x_1 + \beta'_2 \cdot x_2 + \beta'_0)$$

$\sigma(x) \rightarrow \text{Sigmoid}$



UAT

↓

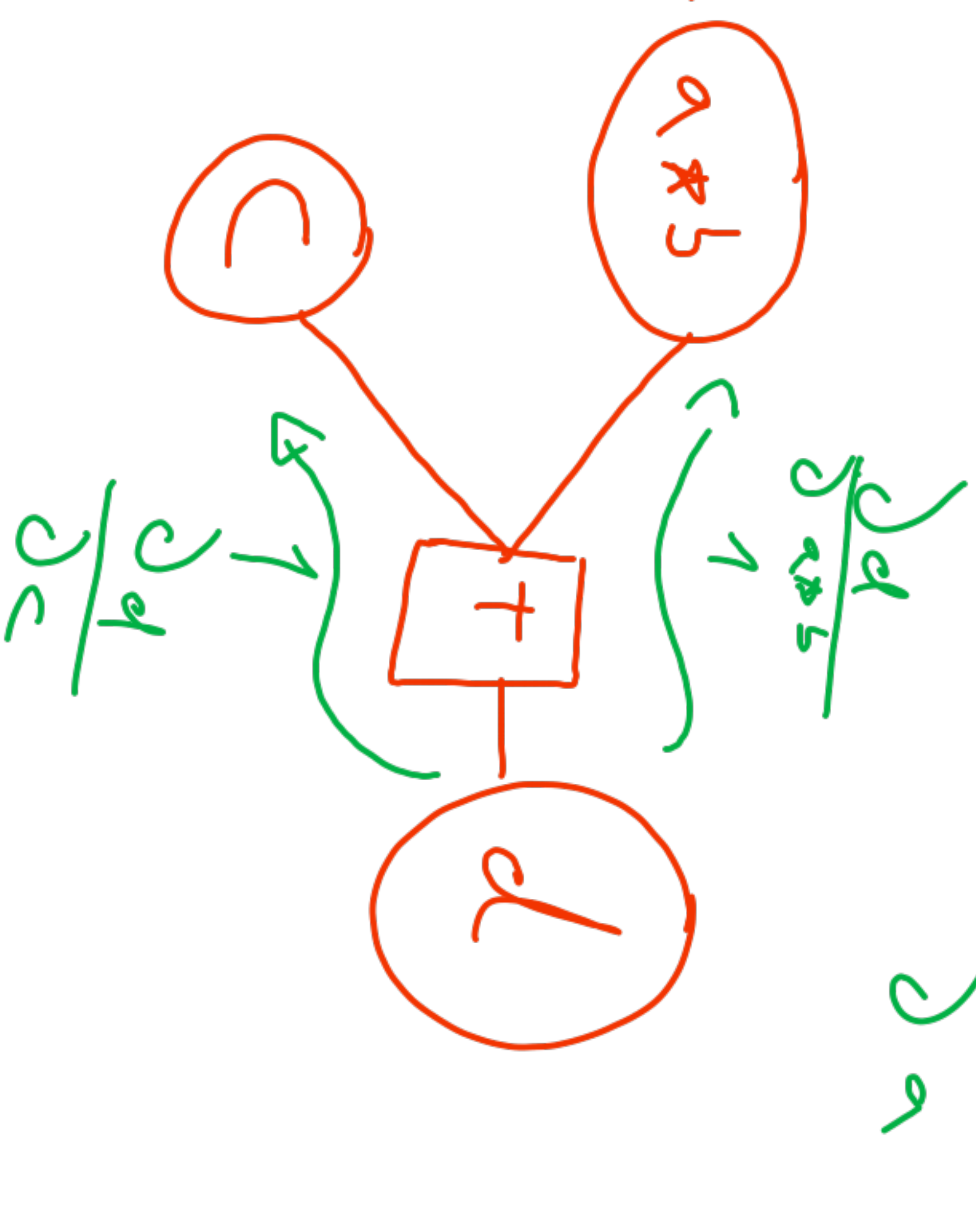
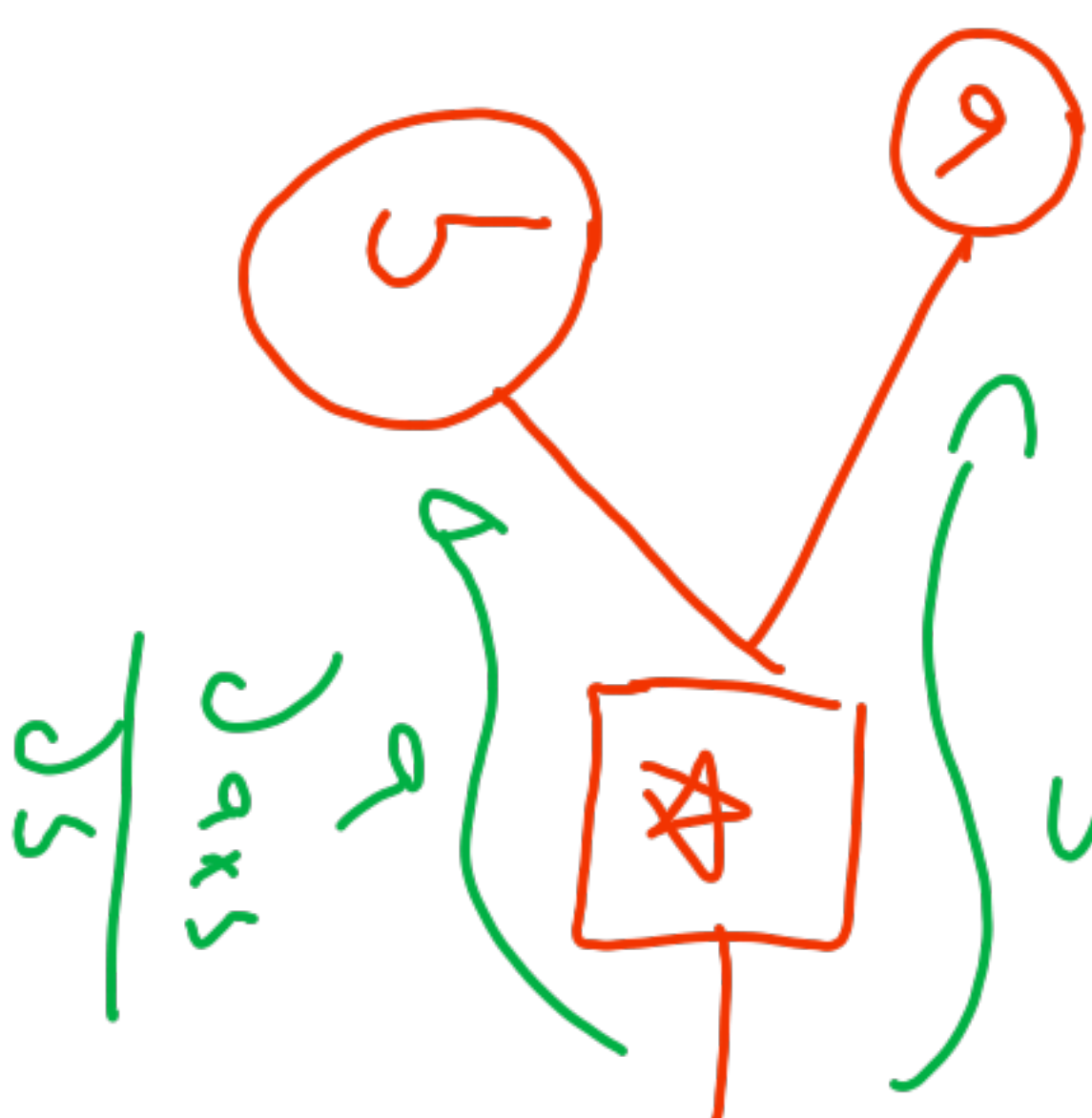
↑ hidden layer is noisy

XOR

0	0	1
1	0	1
1	1	0

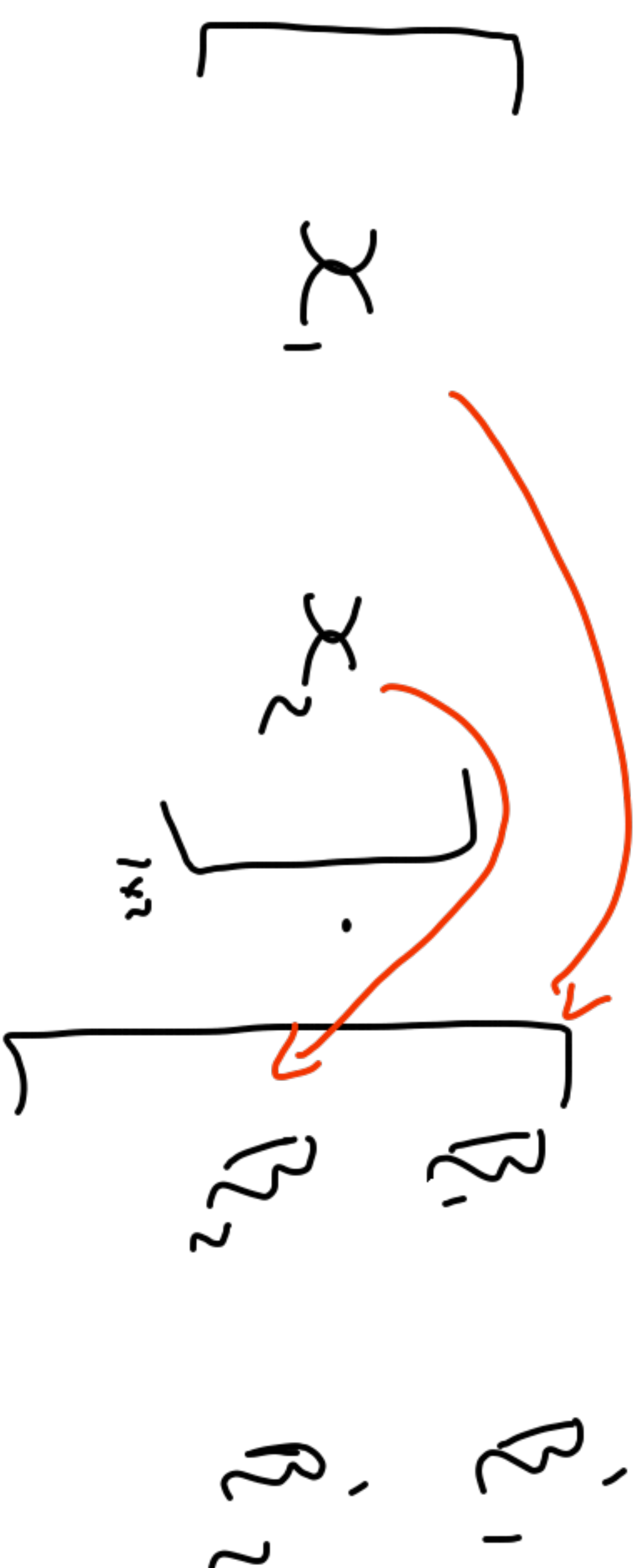
$$d = a \times b + c$$

$$w_n \quad \frac{\partial a \times b}{\partial a}$$



$$= \frac{\cancel{\partial} \partial}{\cancel{\partial(x_5)} \partial} \cdot \frac{\cancel{\partial(x_5)} \partial}{\cancel{\partial} \partial}$$

$$= 1 \cdot 5 = 5$$



$$\begin{bmatrix} x_1' & x_2' & x_3' \end{bmatrix}$$

$$\begin{bmatrix} B_1'' & B_2'' & B_3'' \end{bmatrix}$$

$$= \begin{bmatrix} x_1' \end{bmatrix}$$

$$\rightarrow \begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix}$$

$$= \begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix}$$

$$\begin{bmatrix} \beta_1'' \\ \beta_2'' \\ \beta_3'' \end{bmatrix} + \begin{bmatrix} \beta_0' \\ \beta_0'' \end{bmatrix} = \begin{bmatrix} \beta_0' \\ \beta_0'' \end{bmatrix}$$

$$+ \beta_2 x_2 + \beta_0 = x_1$$

$$= x_1 - \beta_0 - \beta_2 x_2$$

$$+ \beta_0''$$



$$\begin{pmatrix} z_1 & z_2 & z_3 \\ x'_1 & x'_2 & x'_3 \end{pmatrix}$$

