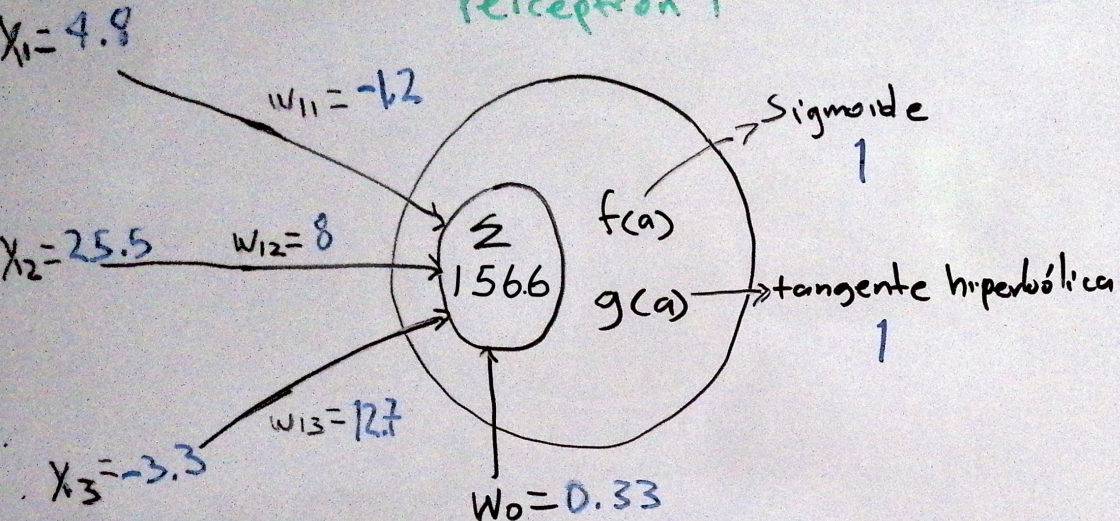
Perceptrón 1



$$\sum_{i=0}^{n} X_i * W_i + W_o = (4.8)(-1.2) + (25.5)(8) + (-3.3)(12.7) + 0.33$$

$$a = -5.76 + 204 + -41.91 + 0.33$$

$$a = 156.66$$

$$f(a) = \frac{1}{1 + e^{-(156.66)}}$$

$$f(a) = \frac{1}{1 + 9.192e-69}$$

$$f(a) = \frac{1}{1} = 1$$

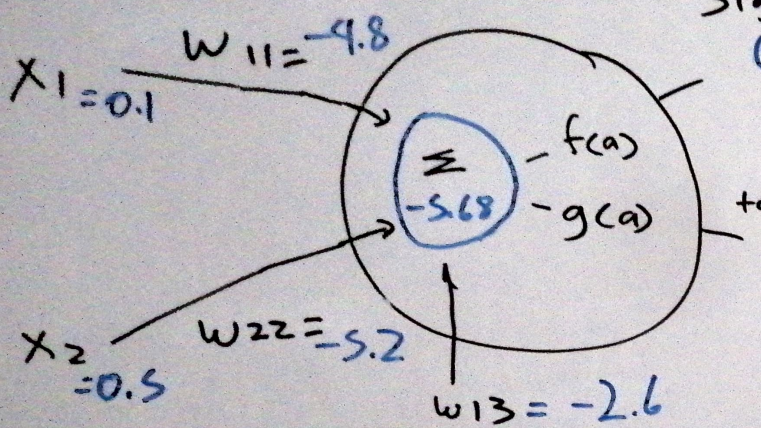
$$g(a) = \frac{e^{(159.66)} - e^{-(159.66)}}{e^{(159.66)} + e^{-(159.66)}}$$

$$g(a) = \frac{1.087e+68 - 9.19e^{-69}}{1.087e+68 + 9.19e^{-69}}$$

$$g(a) = \frac{1.087e+68}{1.087e+68}$$

$$g(a) = 1$$

N 1



Sigmoide
0.0039

tangente hiperbólica
−0.9999

$$\sum_{i=0}^{n} x_i * w_i + w_o = (0.1)(-9.8) + (0.5)(-5.2) + (-2.6)$$

$$a = -0.98 - 2.6 - 2.6$$

$$a = -5.68$$

Sigmoide

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

tangente hiperbólica

$$g(a) = \frac{e^{a} - e^{-a}}{e^{a} + e^{-a}}$$

$$f(a) = \frac{1}{1+e^{-(-5.68)}}$$

$$f(a) = \frac{1}{1+292.949}$$

$$f(a) = 0.0034$$

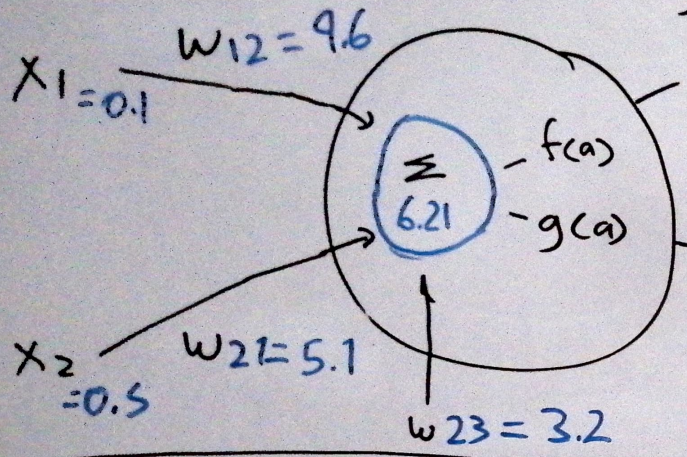
$$g(a) = \frac{e^{(-5.68)} - e^{-(-5.68)}}{e^{(-5.68)} + e^{-(-5.68)}}$$

$$g(a) = \frac{0.0034 - 292.949}{0.0034 + 292.949}$$

$$g(a) = \frac{-292.9456}{292.9529}$$

$g(a) = -0.9999$

N2



Sigmoide
0.9979

tangente hiperbólica
0.9999

$$\sum_{i=0}^{n} X_i * w_i + w_o = (0.1)(4.6) + (0.5)(5.1) + 3.2$$

$$a = 0.46 + 2.55 + 3.2$$

$$a = 6.21$$

$w_{s1} \rightarrow 0.0034$
$\rightarrow 0.9999$

$$f(a) = \frac{1}{1 + e^{-(6.21)}}$$

$$f(a) = \frac{1}{1 + 0.002}$$

$$f(a) = \frac{1}{1.002} = 0.9979$$

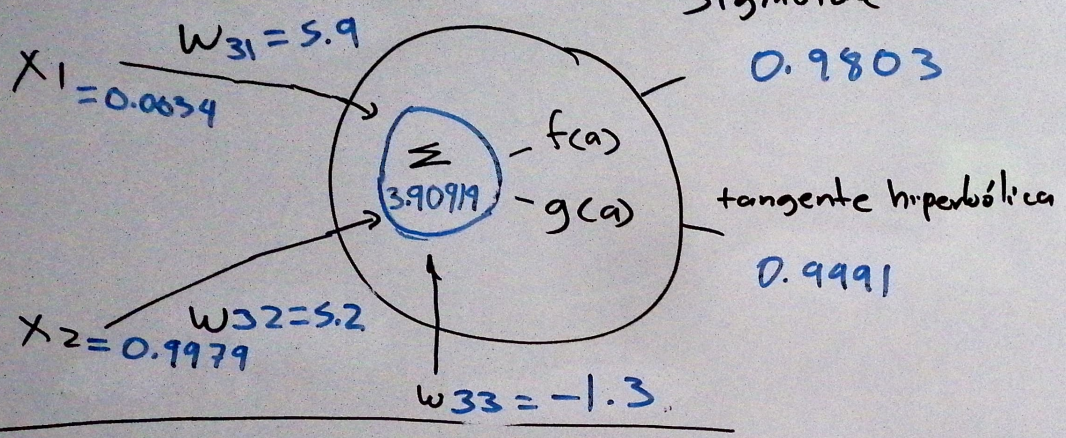
$$g(a) = \frac{e^{(6.21)} - e^{-(6.21)}}{e^{(6.21)} + e^{-(6.21)}}$$

$$g(a) = \frac{497.701 - 0.002}{497.701 + 0.002}$$

$$g(a) = \frac{497.699}{497.703}$$

$$g(a) = 0.9999$$

N3 (Sigmoide)



$$\sum_{i=0}^{n} x_i * w_i + w_o = (0.0034)(5.9) + (0.9979)(5.2) + (-1.3)$$

$$a = 0.02006 + 5.18908 - 1.3$$

$$a = 3.90914$$

$w_{31} \rightarrow 0.0034$
$\rightarrow 0.9999$

$w_{32} \rightarrow 0.9979$
$\rightarrow 0.9999$

$$f(a) = \frac{1}{1 + e^{-(3.90919)}}$$

$$f(a) = \frac{1}{1 + 0.02005} =$$

$$f(a) = 0.9803$$

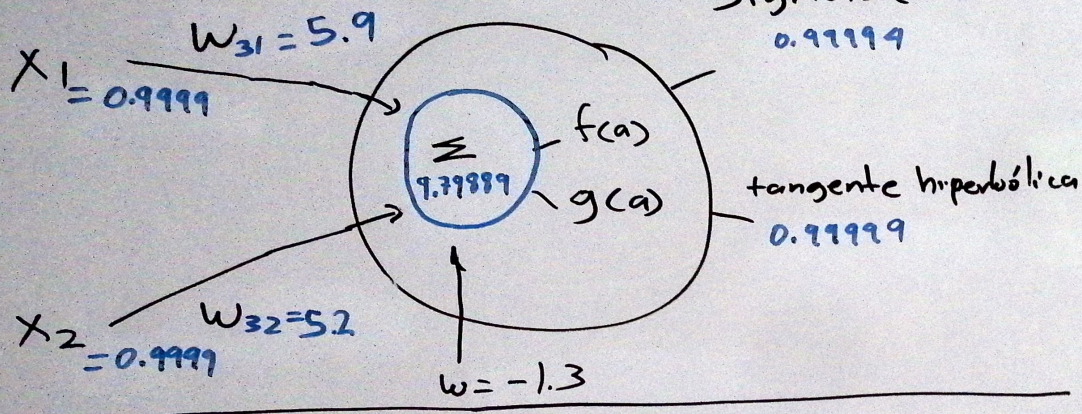
$$g(a) = \frac{e^{(3.90919)} - e^{-(3.90919)}}{e^{(3.90919)} + e^{-(3.90919)}}$$

$$g(a) = \frac{49.856 - 0.02005}{49.856 + 6.02005}$$

$$g(a) = \frac{49.8359}{99.8761}$$

$$g(a) = 0.9991$$

N3 (tangente hiperbólica)



$$\sum_{i=0}^{n} X_i * W_i + W_o = (0.9999)(5.9) + (0.9999)(5.2) + (-1.3)$$

$$a = 5.89941 + 5.19948 - 1.3$$

$$a = 9.79889$$

$W_{31} \rightarrow 0.0039$
$\rightarrow 0.9999$

$W_{32} \rightarrow 0.9979$
$\rightarrow 0.9999$

$$f(a) = \frac{1}{1 + e^{-(9.79889)}}$$

$$f(a) = \frac{1}{1 + 5.55131e-05}$$

$$f(a) \frac{1}{1.0000551} = 0.99994$$

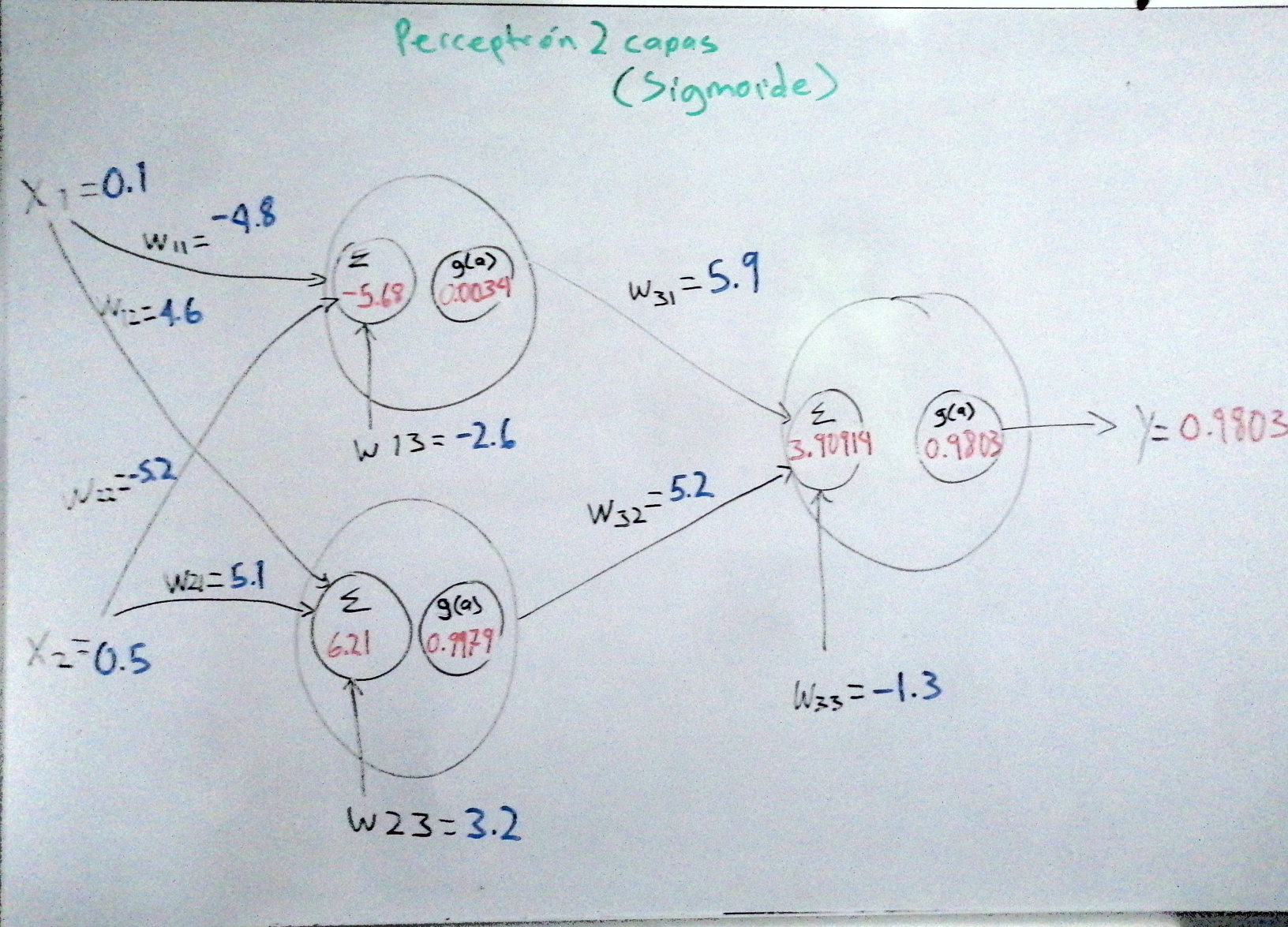
$$g(a) = \frac{e^{(9.79889)} - e^{-(9.7889)}}{e^{(9.79889)} + e^{-(9.7889)}}$$

$$g(a) = \frac{18013.73857 - 1.0000551}{18013.73857 + 1.0000551}$$

$$g(a) = \frac{18013.738521}{19013.738632}$$

$$g(a) = 0.99999999$$

Perceptrón 2 capas (Sigmoide)



Perceptrón 2 capas
(tangente hiperbólica)