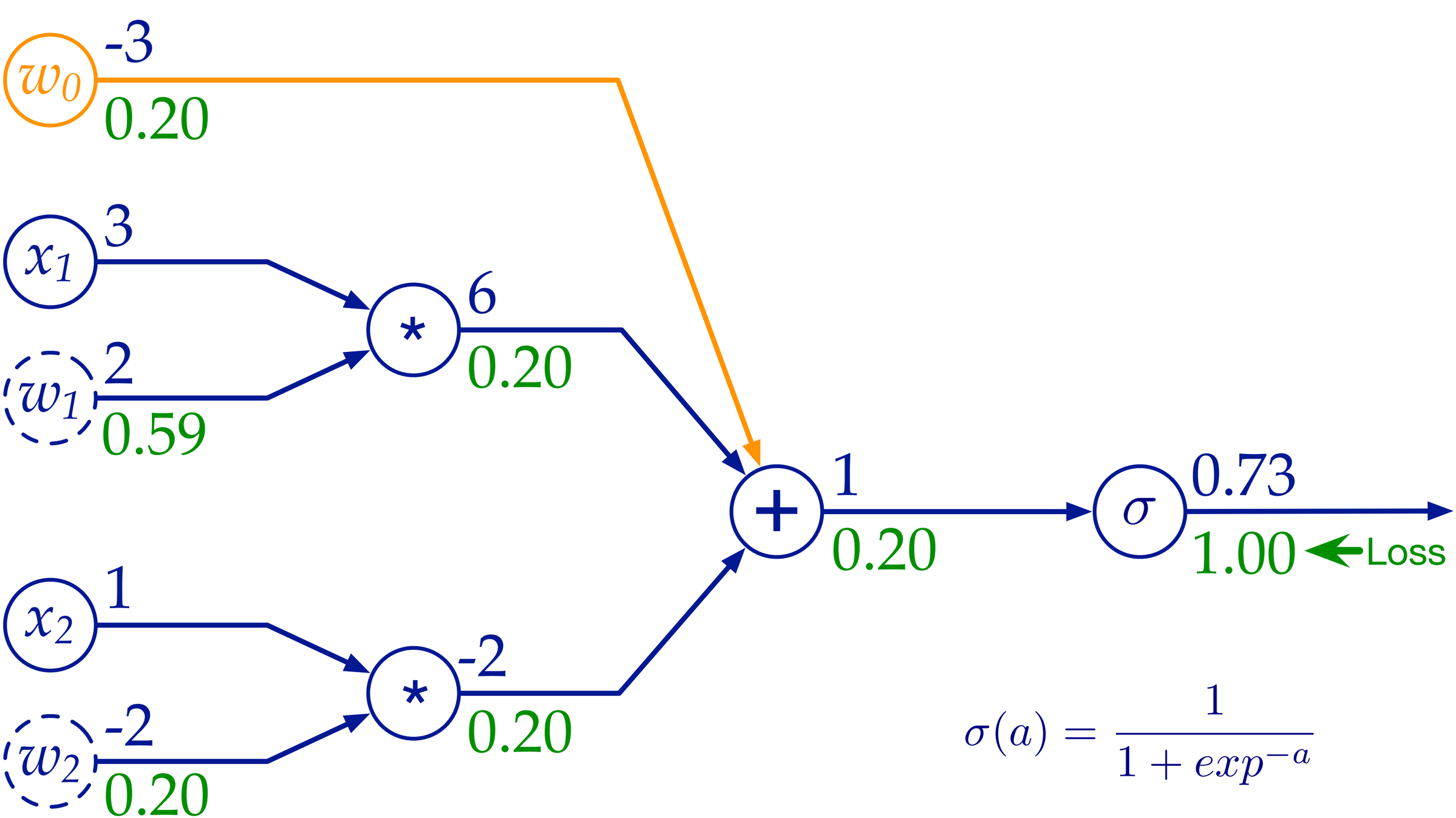

$$\sigma(a) = \frac{1}{1 + exp^{-a}}$$

$$\frac{\partial a}{\partial w_2} = aw_2 \qquad \nabla_{\vec{w}} a = (\vec{w}^T \vec{x} - y)\vec{x}^T \qquad \frac{\partial \sigma}{\partial a} = (1 - \sigma(a))\sigma(a)$$