$$\frac{\partial J}{\partial z^l} = \delta^l \tag{1}$$

$$\frac{\partial J}{\partial \Delta^l} = (W^{l+1})^T \delta^{l+1} = \frac{\partial J}{\partial a^l} \tag{2}$$

$$\frac{\partial a^l}{\partial z^l} = \sigma(z^l) \odot (1 - \sigma(z^l)) \tag{3}$$

$$\frac{\partial J}{\partial z^l} = \frac{\partial J}{\partial a^l} \frac{\partial a^l}{\partial z^l} = (W^{l+1})^T \delta^{l+1} \odot \sigma(z^l) \odot (1 - \sigma(z^l)) = \delta^l \tag{4}$$