2.

For the Network 1:

$$a^{(1)} = w^{(1)} a^{(0)} + b^{(1)}$$

$$a^{(2)} = w^{(2)} a^{(1)} + b^{(2)} = w^{(2)}\left(w^{(1)} a^{(0)} + b^{(1)}\right) + b^{(2)} = w^{(2)} w^{(1)} a^{(0)} + w^{(2)} b^{(1)} + b^{(2)}$$

$$a^{(3)} = w^{(3)} a^{(2)} + b^{(3)} = w^{(3)}\left(w^{(2)} w^{(1)} a^{(0)} + w^{(2)} b^{(1)} + b^{(2)}\right) + b^{(3)}$$

$$= w^{(3)} \cdot w^{(2)} \cdot w^{(1)} \cdot a^{(0)} + w^{(3)} \cdot w^{(2)} \cdot b^{(1)} + w^{(3)} \cdot b^{(2)} + b^{(3)}$$

For the Network 2:

$$a^{(1)} = \tilde{w} \cdot a^{(0)} + \tilde{b} = a^{(3)} = w^{(3)} w^{(2)} w^{(1)} a^{(0)} + w^{(3)} w^{(2)} b^{(1)} + w^{(3)} b^{(2)} + b^{(3)}$$

$$\Rightarrow \begin{cases} \tilde{w} = w^{(3)} \cdot w^{(2)} \cdot w^{(1)} \\ \tilde{b} = w^{(3)} \cdot w^{(2)} \cdot b^{(1)} + w^{(3)} b^{(2)} + b^{(3)} \end{cases}$$