

1 a)

$$\frac{d}{dw} NN(x, w, v)$$

$$\frac{d}{dw} \sigma(w \cdot \sigma(vx))$$

$$\sigma'(w \cdot \sigma(vx)) \cdot \frac{d}{dw} (w \cdot \sigma(vx))$$

$$\sigma'(w \cdot \sigma(vx)) \cdot \sigma(vx)$$

1 b)

$$\frac{d}{dp} \frac{1}{2} (p - y)^2$$

$$\frac{1}{2} \frac{d}{dp} (p - y)^2$$

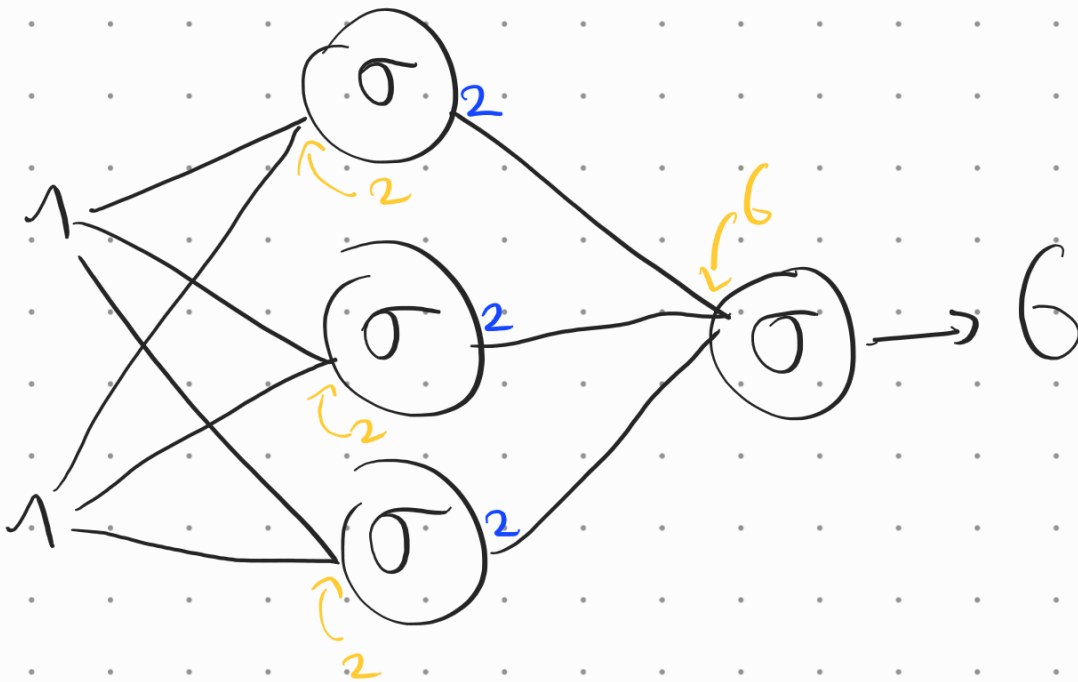
$$\frac{1}{2} \left( 2 \left( (p - y) \cdot \frac{d}{dp} (p - y) \right) \right)$$

$$(p - y) \cdot \frac{d}{dp} (p) + \frac{d}{dp} (-y)$$

$$(p-y) \cdot (1+0)$$

$$p-y$$

$$1.) \quad x_1 = 1 \\ x_2 = 1$$



$$x_1 = 1 \\ x_2 = -1$$

