b). $\sum 2w_n(\theta_0+\theta_1 x_{n,1}-y_n) = 0$ ---①

$\sum 2w_n(\theta_0+\theta_1 x_{n,1}-y_n)\cdot x_{n,1} = 0$ ---②

From ①:

$\sum w_n\theta_0 = \sum(w_n y_n - w_n\theta_1 x_{n,1})$ ---③

From ②:

$\sum w_n\theta_0 x_{n,1} = \sum(w_n y_n x_{n,1} - w_n\theta_1 x_{n,1}^2)$ ---④

From ③:

$$\theta_0 = \frac{\sum(w_n y_n - w_n\theta_1 x_{n,1})}{\sum w_n} \quad \text{---⑤}$$

Substitute ⑤ into ④:

$$\frac{\sum(w_n y_n - w_n\theta_1 x_{n,1})}{\sum w_n}\cdot\sum w_n x_{n,1} = \sum(w_n y_n x_{n,1} - w_n\theta_1 x_{n,1}^2)$$

$$\sum(w_n y_n)\sum(w_n x_{n,1}) - \sum(w_n\theta_1 x_{n,1})\sum(w_n x_{n,1}) = \sum w_n\cdot\sum(w_n y_n x_{n,1} - w_n\theta_1 x_{n,1}^2)$$

$$\sum w_n\sum w_n\theta_1 x_{n,1}^2 - \sum(w_n\theta_1 x_{n,1})\sum w_n x_{n,1} = \sum w_n\sum w_n y_n x_{n,1} - \sum w_n y_n\sum w_n x_{n,1}$$

$$\theta_1\left(\sum w_n\sum w_n x_{n,1}^2 - \left(\sum w_n x_{n,1}\right)^2\right) = \sum w_n\sum w_n y_n x_{n,1} - \sum w_n y_n\sum w_n x_{n,1}$$

$$\theta_1 = \frac{\sum_{n=1}^{N} w_n \sum_{n=1}^{N} w_n y_n x_{n,1} - \sum_{n=1}^{N} w_n y_n \cdot \sum_{n=1}^{N} w_n x_{n,1}}{\sum_{n=1}^{N} w_n \cdot \sum_{n=1}^{N} w_n x_{n,1}^2 - \left(\sum_{n=1}^{N} w_n x_{n,1}\right)^2}$$

$$\theta_0 = \frac{\sum_{n=1}^{N}(w_n y_n - w_n\theta_1 x_{n,1})}{\sum_{n=1}^{N} w_n}$$ Substitute θ_1 with