7.16) $g(\omega_0, \ldots, \omega_{C-1}) = \frac{1}{P}\sum_{p=1}^{P}\left[\left(\max_{j=0,\ldots,C-1} \mathring{x}_p^T \omega_j\right) - \mathring{x}_p^T W_{y_p}\right]$

7.3) Given $y = -1, 1$ & $C = 2$

$\mathring{x}^T \omega_c = 0$

6.33) $g(w) = \frac{1}{P}\sum_{p=1}^{P} \max(0, -y_p \mathring{x}_p^T w)$

7.4) $x^T \omega_c = \max_{j=0,\ldots,C-1} \mathring{x}^T \omega_j$

Given $C = 2$, $y = -1, 1$:

$g(\omega_0, \omega_1) = \frac{1}{P}\sum_{p=1}^{P} \max(0, \mathring{x}_p^T \omega_j - \mathring{x}_p^T \omega_{y_p})$ sub EQ 7.20) $7.16 = \max(0, \mathring{x}_p^T(\omega_j - \omega_{y_p}))$

$g(\omega_0, \omega_1) = \frac{1}{P}\sum_{p=1}^{P} \max(0, \mathring{x}_p^T \omega_c - \mathring{x}_p^T \omega_{y_p})$ sub EQ 7.4

$g(\omega) = \frac{1}{P}\sum_{p=1}^{P} \max(0, -\mathring{x}_p^T \omega_{y_p})$ sub EQ 7.3: $C = 2$ & $Y = -1, 1$

$-\mathring{x}_p^T \omega_{y_p} = -y_p x_p^T w$ where $y = -1, 1$

$\therefore$ $7.16 = g(w) = \frac{1}{P}\sum_{p=1}^{P} \max(0, -y_p \mathring{x}_p^T w) = 6.33$

when $C = 2$, $y = -1, 1$