

**5.13** The off diagonal elements in the Hessian matrix are the same. So, the number of independent elements in  $\mathbf{H} = 1/2(\text{number of off diagonal elements}) + \text{number of diagonal elements}$ .

$$= \frac{1}{2}(W^2 - W) + W = \frac{W^2}{2} + \frac{W}{2}$$

Number of independent elements in  $\mathbf{b} = W$ .

Therefore, the total number of independent elements in the quadratic error function (5.28) is given by:

$$\begin{aligned} & \frac{W^2}{2} + \frac{W}{2} + W \\ &= \frac{W^2}{2} + \frac{3W}{2} \\ &= W(W + 3)/2 \end{aligned}$$