

E 3.3 Show the relation

$$(L_h z, v) = \sum_{x_g} \bar{a}(x_g) \frac{z(\xi) - z(x)}{h(\xi, x)} \frac{v(\xi) - v(x)}{h(\xi, x)} H(\xi) + \\ + \sum_{x \in W} \bar{c}(x) z(x) v(x) H(x),$$

from which and from (27) we immediately see that L_h (and, therefore, the corresponding matrix A_h) is symmetric and positive definite!