

**Exercise 9**

Show that the boundary conditions

$$X(b) = \alpha X(a) + \beta X'(a) \quad \text{and} \quad X'(b) = \gamma X(a) + \delta X'(a)$$

on an interval  $a \leq x \leq b$  are symmetric if and only if  $\alpha\delta - \beta\gamma = 1$ .