

$$U_{n+1} = U_n(2h^2 + 2h + 1)$$

$$U_n(h) = U_{n+1} - U_n 2h - U_n 2h^2$$

$$U_n(h/2) = U_{n+1} - U_n h - U_n \frac{h^2}{2}$$

$$\frac{U_n(h) - 2U_n(h/2)}{-1} = -(-U_{n+1} + U_n(h^2 - 2h^2)) = U_{n+1} + U_n h^2 = R_1$$

$$R_1 = U_n(2h^2 + 2h + 1) + U_n h^2 = U_n(3h^2 + 2h + 1)$$

$$U_{n+1}(h) = U_n(2h^2 + 2h + 1)$$

$$U_{n+1}(h/2) = U_n(h^2/2 + h + 1)$$

$$\frac{U_{n+1}(h) - 2U_{n+1}(h/2)}{-1} = U_n(-h^2 + 1)$$

$$U_n(h) = U_n(0.1) \approx 7.305$$

$$U_n(h/2) = U_n(0.05) \approx 7.366$$