

## Rehearsal problem

$$\text{IVP } \dot{x} = x, x(0) = 1$$

2 step scheme

$$y(t+h) - y(t-h) = 2h y(t)$$

a) Gen soln of exact difference eqn.

b) Unique soln based on

$$y_0 = 1, y_1 = 1 + h + \frac{h^2}{2}$$

d)  $y(t = nh) - e^t$  approx as  $n \rightarrow \infty$ ,  $t$  fixed.