

34

$$m^2 - 2m + 1 = 0$$

$$y(0) = 5$$

$$y'(0) = 10$$

$$m = 1, 1$$

$$y = c_1 e^t + c_2 t e^t$$

$$y(0) = 5$$

$$c_1 + 0c_2 = 5$$

$$\boxed{c_1 = 5}$$

$$y'(t) = c_1 e^t + c_2 e^t + c_2 t e^t$$

$$y'(0) = 10$$

$$10 = c_1 + c_2 + c_2(0)$$

$$\boxed{c_2 = 10 - c_1 = 10 - 5 = 5}$$