opg. 3, bog opg. 2.2.1

Les ODE'en

$$y''(x) - 25\,y(x) = 0$$

$$\overset{(a)}{\lambda^2} + \overset{(b)}{a}\lambda + \overset{(c)}{b} = 0$$

gamb: $a = 1,\ b = 0,\ c = -25$

$d = b^2 - 4ac = 0^2 - 4 \cdot 1 \cdot (-25) = 100$ gamle måde

$d = a^2 - 4b = 0^2 - 4 \cdot (-25) = 100$ Martens måde

$$\lambda_+ = \frac{-a + \sqrt{a^2 - 4b}}{2} = \frac{-0 + \sqrt{100}}{2} = 5$$

$$\lambda_- = \frac{-a - \sqrt{a^2 - 4b}}{2} = \frac{-0 - \sqrt{100}}{2} = -5$$

$$y(x) = c_1 \cdot e^{\lambda_+ \cdot x} + c_2 \cdot e^{\lambda_- \cdot x}$$

$$\underline{y(x) = c_1 \cdot e^{5x} + c_2^{-5x}}$$