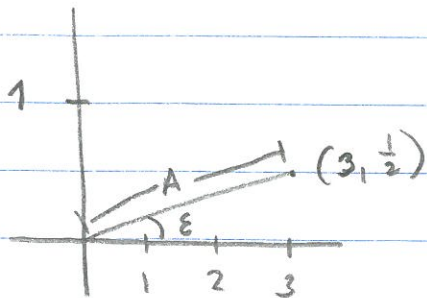


Fortsættelse af opgave 16.31

Løsning til opgave 16.31: $y = e^{2t} \left[3 \cos 2t + \frac{1}{2} \sin 2t \right]$

$$\left(3, \frac{1}{2} \right) = (A \cos \varepsilon, A \sin \varepsilon) \quad \text{hvor} \quad A = \sqrt{3^2 + \frac{1}{2}^2} = 3.04$$

$$\varepsilon = \tan^{-1} \frac{\frac{1}{2}}{3} = 0.165$$



Dvs

$$y = e^{2t} \left[3.04 \cos(0.165) \cos(2t) + 3.04 \sin(0.165) \sin(2t) \right]$$

$$\stackrel{(*)}{=} 3.04 e^{2t} \left[\cos(-0.165) \cos(2t) - \sin(-0.165) \sin(2t) \right]$$

add.

$$\stackrel{\text{formel}}{=} \underline{\underline{3.04 e^{2t} \cos(2t - 0.165)}}.$$

$$\left(* : \cos(0.165) = \cos(-0.165) \quad \text{og} \quad \sin(0.165) = -\sin(-0.165) \right)$$