

$$(1) \quad M(t, y) + N(t, y) \cdot y' = 0$$

$M \in C^1(\Omega)$ ,  $N \in C^1(\Omega)$ , kde  $\Omega \subset \mathbb{R}^2$  je jednoduše souvislá oblast

$$\mu(t, y) \cdot M(t, y) + \mu(t, y) \cdot N(t, y) \cdot y' = 0$$

$$\frac{\partial(\mu \cdot M)}{\partial y} = \frac{\partial(\mu \cdot N)}{\partial t}$$

$$\frac{\partial \mu}{\partial y} \cdot M + \mu \cdot \frac{\partial M}{\partial y} = \frac{\partial \mu}{\partial t} \cdot N + \mu \cdot \frac{\partial N}{\partial t}$$

$$\mu = \mu(t) : \quad \mu \cdot \frac{\partial M}{\partial y} = \mu' \cdot N + \mu \cdot \frac{\partial N}{\partial t}$$

$$\mu = \mu(y) : \quad \mu' \cdot M + \mu \cdot \frac{\partial M}{\partial y} = \mu \cdot \frac{\partial N}{\partial t}$$

Příklad

$$a(t) \cdot y - b(t) + y' = 0$$

$$\underbrace{\mu(t) \cdot a(t) \cdot y - \mu(t) \cdot b(t)}_{\text{mmmm}} + \mu(t) \cdot y' = 0$$

$$\mu(t) \cdot a(t) = \mu'(t)$$

$$\mu(t) = e^{\int a(t) dt}$$