

lin/inhom

$$\frac{dy}{dx} + 2y = x \text{ allg Lsg}$$

$$\sqrt{x} < 1: (1-x)^2 \frac{dy}{dx} - xy + 1 = 0$$

$$\frac{dy}{dx} = \frac{x}{1-x^2}y - \frac{1}{1-x^2}$$

$$\frac{dy}{dx} = 2y + x \Rightarrow \text{allg Lsg } /y(0) = 1$$

$$x^2 \frac{dy}{dx} - 2xy = \frac{1}{x}: y(1/2) = 8$$

$$3 \frac{dy}{dx} + 8y = 0: y(3) = e^{-7} \text{ AWP}$$

$$\text{Temperatur } T(t) = 20(1 - Ce^{-kt}) \begin{cases} T(0) = 80 \\ T(5 \text{ min}) = 60 \end{cases} \Rightarrow C/k / \lim_{t \rightarrow \infty} T(t)$$

$$\text{value } V(t) = 4^{\sqrt{t}}: \text{ interest rate } r = \frac{12}{100} \Rightarrow \text{ present value } V_0(t) / \text{ max of } V_0(t)$$

$$P(0) = 25000: P(4) = 50000 \Rightarrow \text{ interest rate } r/P(t) = P_0 e^{rt}$$