

1.2

7.

$$x(t) = C_1 \cos t + C_2 \sin t$$

$$0 = x + x''$$

$$x(0) = 1 \quad x'(0) = 0$$

$$x'(t) = -C_1 \sin t + C_2 \cos t$$

$$\begin{aligned} \Rightarrow x(0) &= C_1 \cos 0 + C_2 \sin 0 = C_1 = 1 \\ x'(0) &= -C_1 \sin 0 + C_2 \cos 0 = C_2 = 0 \end{aligned}$$