

**Answer on question #85724 – Math – Differential Equations**

Let  $y(x) = C_1e^x + C_2e^{-x}$ . The condition of  $y'' - y = 0$  is satisfied for all  $x$ :  $y' = C_1e^x - C_2e^{-x}$ ,  
 $y'' = C_1e^x + C_2e^{-x} = y$ .

From a condition of  $y(0) = 0$  we receive  $C_2 = -C_1$  and from  $y'(0) = 7$  we receive  $2C_1 = 7$ .  
So,  $C_1 = 3.5$ ,  $C_2 = -3.5$ , hence  $y(x) = 3.5e^x - 3.5e^{-x}$ .