1.2

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

$x'' + x = 0$

$x(0) = -1$, $x'(0) = 8$

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

$\Rightarrow x(0) = C_1\cos(0) + C_2\sin(0) = C_1 = -1$

$x'(0) = -C_1\sin(0) + C_2\cos(0) = C_2 = 8$