

$$x(n) = 4x(n-1), \quad n > 1, \quad x(1) = 7$$

Step 1: $x(n-1) = 4x(n-2)$

$$\hookrightarrow x(n) = 4x(n-1) = 4(4x(n-2)) = 16x(n-2)$$

Step 2: $x(n-2) = 4x(n-3)$

$$\hookrightarrow x(n) = 16x(n-2) = 16(4x(n-3)) = 64x(n-3)$$

Step 3: $x(n) = 4^k x(n-k)$

Step 4: initial condition: $x(1) = 7 \Rightarrow n-k=1$
 $\Rightarrow k=n-1$

Step 5: $x(n) = 4^{n-1} x(n-n+1) = 4^{n-1} \cdot x(1) = 7 \cdot 4^{n-1}$

$$\boxed{x(n) = 7 \cdot 4^{n-1}}$$