22.30

$$g'\left(x+x^3\right)=8x \Rightarrow g'\left(x+x^3\right)\cdot\left(1+3x^2\right)=8x\cdot\left(1+3x^2\right)\Rightarrow\left[g'\left(x+x^3\right)\right]'=24x^3+8x$$

$$\Rightarrow\left[g'\left(x+x^3\right)\right]'=\left(6x^4+4x^2\right)'\Rightarrow g\left(x+x^3\right)=6x^4+4x^2+c \quad (1)$$

Ακόμη

$$(1)\overset{x=1}{\Rightarrow} g\left(1+1^3\right)=6\cdot1^4+4\cdot1^2+c\Rightarrow g(2)=10+c \overset{g(2)=10}{\Rightarrow} 10=10+c\Rightarrow c=0 \quad (2)$$

$$(1),(2)\Rightarrow g\left(x+x^3\right)=6x^4+4x^2\overset{x=0}{\Rightarrow} g\left(0+0^3\right)=6\cdot0^4+4\cdot0^2\Rightarrow \boxed{g(0)=0}$$