1.10

$$f(x)=\frac{1}{1-x}\Rightarrow f\left(f(x)\right)=\frac{1}{1-f(x)}\overset{f(x)=\frac{1}{1-x}}{\Rightarrow} f\left(f(x)\right)=\frac{1}{1-\frac{1}{1-x}}\Rightarrow f\left(f(x)\right)=\frac{1}{\frac{1-x-1}{1-x}}\Rightarrow$$

$$\Rightarrow f\left(f(x)\right)=\frac{1-x}{-x}\Rightarrow f\left(f(x)\right)=\frac{x-1}{x}$$

Οπότε

$$f\left(f(x)\right)=\frac{x-1}{x}\Rightarrow f\left(f\left(f(x)\right)\right)=\frac{f(x)-1}{f(x)}\overset{f(x)=\frac{1}{1-x}}{\Rightarrow} f\left(f\left(f(x)\right)\right)=\frac{\frac{1}{1-x}-1}{\frac{1}{1-x}}\Rightarrow$$

$$\Rightarrow f\left(f\left(f(x)\right)\right)=\frac{\frac{1-1+x}{1-x}}{\frac{1}{1-x}}\Rightarrow f\left(f\left(f(x)\right)\right)=x$$