Exercises

24.17 [1VF] Note:*exercise 3, written exam, June 23th 2012.*

Prove that there is one and only one continuous function f on interval $[0, 1]$ that satisfies the condition

$$f(x) = \sin(x) + \int_0^1 \frac{f(t)}{x^2 + t^2 + 1} \, \mathrm{d}t \quad \forall x \in [0, 1] \quad .$$