**Problem statement** Suppose you know that $f'(x) = \dfrac{2}{1+x^4} - \dfrac{3}{4+x^4}$. Is $f(0) < f(1)$?

**Note** You probably can't write a formula for a function with this derivative at this time. Here is such a function:

$$f(x) = \frac{\sqrt{2}}{4} \ln \left( \frac{x^2 + \sqrt{2}x + 1}{x^2 - \sqrt{2}x + 1} \right) + \frac{\sqrt{2}}{2} \arctan(\sqrt{2}x + 1) + \frac{\sqrt{2}}{2} \arctan(\sqrt{2}x - 1)$$

$$+ \frac{3}{16} \ln(x^2 - 2x + 2) - \frac{3}{8} \arctan(x - 1) - \frac{3}{16} \ln(x^2 + 2x + 2) - \frac{3}{8} \arctan(x + 1).$$

Does knowing this formula help or is studying the derivative easier? Please make an *indirect* argument, using information about $f'$.