

$$f(n) = n^2 - \varepsilon n$$

$$f\left(\sin \frac{a}{p} + \cos \frac{a}{p}\right) \Rightarrow \sin \frac{a}{p} + \cos \frac{a}{p} = \sqrt{\frac{p}{p} + 1}$$

$$f\left(\frac{\sqrt{p}}{p} + 1\right) = 4\left(\frac{\sqrt{p}}{p} + 1\right)^2 - \varepsilon\left(\frac{\sqrt{p}}{p} + 1\right) \Rightarrow c\left(\frac{p}{\varepsilon} + 1 + \sqrt{c}\right) (\sqrt{p} + \varepsilon)$$

$$\frac{p}{p} + 1 + \sqrt{p} - \sqrt{p} - \varepsilon = 1 + \frac{\varepsilon}{p} = -\frac{1}{p}$$

$$f(n) = \frac{n+1}{n-1}$$

$$f(f(n)) = n$$

$$\frac{\frac{n+1}{n-1} + 1}{\frac{n+1}{n-1} - 1} = n$$

$$\frac{\frac{n+1+n-1}{n-1}}{\frac{n+1-n+1}{n-1}} \Rightarrow \frac{2}{1} = n \Rightarrow n = 2$$

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$$f(n) = n^2 - \varepsilon n$$

$$g(n) = \sqrt{n^2 - 1}$$

$$f(g(n)) = \varepsilon$$

$$f(n) = \varepsilon \Rightarrow n^2 - \varepsilon n + \varepsilon = 0 \Rightarrow n = \pm \sqrt{\varepsilon} \Rightarrow g(n) = \sqrt{n^2 - 1} = \sqrt{\varepsilon - 1}$$

$$n = \pm \sqrt{\varepsilon}$$

$$n^2 = \varepsilon \Rightarrow n = \pm \sqrt{\varepsilon}$$

$$\sqrt{\varepsilon - 1}$$

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$$f(n+c) = n^2 - 2n + 4$$

$$f(n+c) = (n-c)(n-c) \Rightarrow f(n) = (n-c)(n-c) = 4$$

$$f(n) = (n-c)(n-c) = 4$$

$$f(c) = (-c)(-c) = 4$$

$$f(c) = (-c)(-c) = 4$$

$$n+1$$

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$$f(\cos^2 n + \sin^2 n) = \tan^2 n$$

$$\cos^2 n + \sin^2 n = 1 \Rightarrow \tan^2 n = \frac{1}{\cos^2 n} = \frac{1}{\cos^2 n}$$

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$$\tan^2\left(\frac{\pi}{4}\right) = \frac{1}{\cos^2\left(\frac{\pi}{4}\right)} = 1$$

$$\tan^2\left(\frac{\pi}{4}\right) = 1$$

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