

۱۹۲۵ آفرین

الف

$$\frac{n-1}{n} - \frac{n}{n-1} \geq 0 \leadsto \frac{n-1}{n} \geq \frac{n}{n-1}$$

ادامه؟

$$\frac{n+1}{n-1} + \frac{1}{n+2} \geq \frac{n}{n-1} + \frac{1}{n+2} \leadsto \frac{n+1}{n-1} \geq \frac{n}{n-1}$$

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$$\frac{3}{n-1} + \frac{1}{n+2} \geq 0 \leadsto \frac{3}{n-1} \geq -\frac{1}{n+2} \leadsto \frac{3}{n-1} \geq -\frac{1}{n+2} \leadsto \frac{3}{n-1} \geq -\frac{1}{n+2} \leadsto \frac{3}{n-1} \geq -\frac{1}{n+2}$$

$$\left(\frac{1}{x}\right)^n - 9 \geq 0 \leadsto \left(\frac{1}{x}\right)^n - 9 = 0 \leadsto \left(\frac{1}{x}\right)^n = 9$$

$$x^n = 9 \leadsto x = \sqrt[n]{9} \leadsto x = 3^{1/n} \leadsto x = 3^{1/2} \leadsto x = \sqrt{3}$$

$$\frac{x^2 - x - 2}{x^2 - x - 2} \geq 0 \leadsto \frac{x^2 - x - 2}{x^2 - x - 2} \geq 0 \leadsto \frac{x^2 - x - 2}{x^2 - x - 2} \geq 0 \leadsto \frac{x^2 - x - 2}{x^2 - x - 2} \geq 0$$

$$\leadsto (-\infty, -1) \cup (2, +\infty)$$

$$\sqrt{x^2 - 1} + 1 \neq 0 \leadsto \sqrt{x^2 - 1} \neq -1 \leadsto \text{برقرار}$$

$$x^2 - 1 \geq 0 \leadsto x^2 \geq 1 \leadsto \begin{cases} x \geq 1 \\ x \leq -1 \end{cases} \leadsto D_f = (-\infty, -1) \cup (1, +\infty)$$

$$x - xa - f = 0 \leadsto -xa - 1 = 0 \leadsto -xa = 1 \leadsto a = -\frac{1}{x}$$

$$-x \times b = \frac{c}{x} \leadsto \frac{x}{-1} \leadsto -x \leadsto b = \frac{x}{x}$$

$$\leadsto a + b = \frac{x}{x} - \frac{1}{x} = \frac{x-1}{x}$$

$$f(x) - x \geq 0 \leadsto f(x) \geq x$$

$$f(-3) \rightarrow -3 \quad D_f = [-3, +\infty)$$

$$f(1) \rightarrow 1 \leadsto x + 3 \geq x \leadsto x + 3 \geq x \leadsto x \geq -3 \leadsto D_f = (-\infty, -3]$$

$$\textcircled{1} \textcircled{2} \leadsto (+\infty, -3]$$

$$\sin \frac{\pi}{4} + \cos \frac{\pi}{4} = \sin 45^\circ + \cos 45^\circ = \frac{\sqrt{2}}{2} + 1 = \frac{1+\sqrt{2}}{2}$$

$$\frac{x(1+\sqrt{2})^x}{x^x} \rightarrow \frac{(1+\sqrt{2})^x}{x^{x-1}} \rightarrow \frac{1+\sqrt{2}+1}{x} = \frac{2+\sqrt{2}}{x} \rightarrow 2+\sqrt{2}+1/8 = 2.125$$

$$\rightarrow -0.125 = -\frac{1}{8}$$

$$f(f(n)) \rightarrow \frac{f(n)+1}{f(n)-1} \rightarrow \frac{n+1}{n-1} + 1 = \frac{n+1}{n-1} + \frac{n-1}{n-1} = \frac{2n}{n-1} = 2n^2 - 2n = 2n^2 - 2n$$

$$2n^2 - 2n + 1 = 0 \rightarrow \Delta = 14 - 14 = 0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{1 \pm 0}{2} \rightarrow 1$$

$$n^2 - 2n = -1 \rightarrow n^2 - 2n + 1 = 0 \rightarrow 14 - 14 = 0 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{1 \pm 0}{2} \rightarrow 1$$

$$\rightarrow n = 1 \rightarrow \sqrt{a^2 - 1} = 1 \rightarrow |a^2 - 1| = 1 \rightarrow a^2 - 1 = \pm 1$$

$$\begin{cases} a^2 = 2 \checkmark \\ a^2 = -2 \times \end{cases} \rightarrow a = \pm \sqrt{2}$$

$$n+1 = 2 \rightarrow n = 1 \rightarrow f(1) = 1 - 2 + 1 = 0$$

$$n+1 = -2 \rightarrow n = -3 \rightarrow f(-3) = 9 + 6 + 1 = 16$$

$$2 \times 16 = 32$$

$$f \cos^2 + 8 \cos = 1/8 \rightarrow \cos(f \cos + 8) = 1/8 \rightarrow \frac{1}{8} \times V = 1/8 \rightarrow V = 1$$

$$n = 45^\circ \rightarrow \tan 45^\circ \rightarrow \frac{\sin^2}{\cos^2} \rightarrow \frac{1}{1} = 1$$


 $\rightarrow Df = (-\infty, -\frac{1}{4}) \cup [\frac{1}{4}, 1)$