

19, 12

Page: ()

سید علی حسینی

SUBJECT

Year: Month: Day:

$$f(n) \leq \begin{cases} \gamma_{n-1} & [n] \leq \gamma \rightarrow \alpha \leq \gamma \\ \gamma_{n+\gamma} & [n] \leq \gamma \rightarrow n < \alpha \end{cases}$$

$$[-\gamma, \gamma] \rightarrow \gamma$$

$$* y \leq \sqrt{\gamma_{n+\gamma} - n + 1} \rightarrow \gamma_{n+\gamma} \rightarrow n \rightarrow -\gamma \rightarrow \gamma$$

$$* y \leq \sqrt{\gamma_{n-1} - n + 1} \rightarrow n \geq \gamma \rightarrow n \geq \alpha$$

$$\frac{1}{\gamma} \frac{\gamma_{n+\gamma} + \gamma_{n-1} + \gamma_{n+1}}{(\gamma_{n+1})^2} \rightarrow \gamma \frac{\gamma_{n+1}}{(\gamma_{n+1})^2} \rightarrow \frac{\gamma}{\gamma_{n+1}}$$

$$\rightarrow 1/\gamma = [-1/\gamma]$$

$$f(n) \leq \begin{cases} (\gamma^2 - 1)(\gamma + 1) \leq n + \gamma & n \neq 1 \rightarrow g(n) = n + c \\ \gamma^2 - 1 \end{cases}$$

$$a_{n+\gamma} \quad n \leq 1 \rightarrow \frac{a+\gamma}{b+1} \rightarrow a+\gamma \rightarrow a+\gamma \leq b+\gamma$$

$$\frac{\gamma - a}{b - 1} \leq 1 \rightarrow \gamma - a \leq b - 1 \rightarrow \gamma - \gamma b - 1 \leq b - 1$$

$$\Rightarrow b \leq \gamma, a \leq \gamma$$

$$\Rightarrow b + c \geq 1/\gamma + \gamma$$

$$g(n) \leq \frac{(n+1)(n-1)}{(n-1)(n-1)} = \frac{n+1}{n-1} \rightarrow (n-1) \leq n - \gamma + 1$$

$$a = -\gamma, b \leq 1, c \leq 1$$

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



$$1. f(n+1) \leq (n-2)^n (n) = n^n + n^n - n^n$$

(2) (3)

$$2. f(1-n) \leq (-n-2)(-n)^n = -n^n - n^n - n^n$$

$$-n^n$$

$$5. 1-2n \leq -1 \rightarrow n \geq 1 \quad n^2 \sqrt{1} \leq n^2$$

(2) (4)

$$6. 1-2n \geq 3 \rightarrow n \leq -1 \rightarrow n^2 \sqrt{-1} + 2 \leq 1$$

$$8. n + \sqrt{n} = 4 \rightarrow n \leq 16$$

(2) (5)

$$9. \Rightarrow f(4) \leq 4^n + 2(4) = 24 + 8 = 32$$

$$11. f(n-1) \leq (n-1)^n + (n-1)$$

(2) (1)

$$12. f(1-n) \leq (1-n)^n + (1-n)$$

$$13. (n-1)^n + (1-n)^n \rightarrow \text{تقریباً هم میسر و یکسان}$$

$$14. \text{فرض کنیم } n \text{ عدد صحیح باشد، جواب (16) است}$$

$$16. f-g = f(1, k) \rightarrow \text{مقدار مثبتی است}$$

(2) (9)

$$18. D_f \Rightarrow n - \frac{1}{n} > 0 \rightarrow n > \frac{1}{n}$$

$$19. D_g \Rightarrow b - \frac{1}{n} > 0 \rightarrow n < \frac{b}{\frac{1}{n}} \rightarrow \frac{1}{n} = \frac{b}{n} \Rightarrow b = 1 \rightarrow b = 1, \text{ as } n \rightarrow \infty$$

$$20. \Rightarrow f-g = 2\sqrt{a} + 2k - 2 - \sqrt{a} - k^2 \rightarrow -k - 2 \leq k \rightarrow k \leq -1$$

$$21. \frac{1}{n} - b + k = n - 2 - (-1) = 16$$



15

$$D_{f \times g} = [-1, 1] \rightarrow \frac{1}{\sqrt{2}}$$

(1, 1.5) (1.5)

$$m + n = \sqrt{2} + \infty$$

17

$$f(m) \rightarrow D_f = \alpha \leq m$$

$$\Rightarrow m \leq \sqrt{2}$$

$$n \leq \sqrt{2} - \sqrt{2}$$

18

$$g(m) \rightarrow D_g = \alpha \geq -1$$

19

$$f(x) - g(x) \geq \sqrt{2} + n - \sqrt{2} \geq \sqrt{2} + n - \sqrt{2} \geq \sqrt{2}$$

