

$$g(0) = 2f(1) = 0$$

(3)

$$\Rightarrow f(1) = 0$$

$$g(2) = 2f(1.5) = 2 \Rightarrow f(1.5) = 1$$

$$g(4) = 2f(1.5) = 0 \Rightarrow f(1.5) = 0$$



$$S = \frac{1.5 \times 2}{2} = 1.5$$

$$\frac{x - a}{2} = 2$$

$$\Rightarrow x = 2 + a$$

$$y = 2x - 1 \Rightarrow 2x - 1 = a + (-2)$$

$$1 + 2a = a - 2 \Rightarrow a = -3$$

برای یافتن

(1)

$$-2 \leq x - 2 \leq 2$$

$$-2 \leq x - 2 \leq 2$$

$$-\frac{2}{2} \leq x \leq \frac{2}{2}$$

$$D_{f(x-2)} = \left[-\frac{2}{2}, \frac{2}{2}\right]$$

(2)

$$-4 \leq x \leq -2$$

$$-14 \leq x - 2 \leq -8$$

$$D_{f(x)} = [-14, -8]$$

(2)

$$x - 2 + \sqrt{x - 2}$$

(1)

$$y = x - 2 + \sqrt{x - 2}$$

(2)

$$y = x - 2 + \sqrt{x - 2}$$

این دو تابع معکوس یکدیگر هستند (تأیید کنید)

مجموعه مقادیر x که در دامنه قرار دارد

محل تلاقی تابع (2) و خط $y = x$ را پیدا کنید

اولاً به دست آوریم

$$x = x - 2 + \sqrt{x - 2}$$

$$\sqrt{x - 2} = 2$$

$$\Rightarrow x - 2 = 4$$

$$\Rightarrow x = 6$$

$$\xrightarrow{y=x} y = 6$$

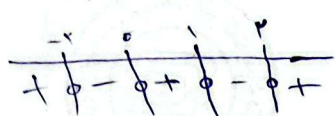
$$\Rightarrow y = 6$$

$$-(n+r)g(n) \gg 0$$

$$\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^n \frac{1}{k} = \frac{1}{n}$$

(5)

$$(n+r)g(n) \leq 0$$



$$\Rightarrow D_g = [-r, 0] \cup [1, r]$$

(v)

$$g(n) = |r(n+k) - r| - r$$

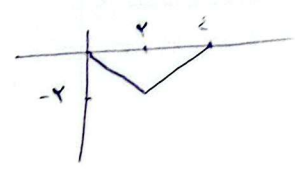
$$g(n) = |rn + rK - r| - r$$

$$g(0) = f(0)$$

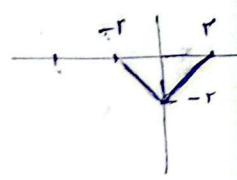
$$|rK - r| - r = \varepsilon \Rightarrow rK - r < \varepsilon$$

$$\Rightarrow K = \frac{1}{r} \checkmark$$

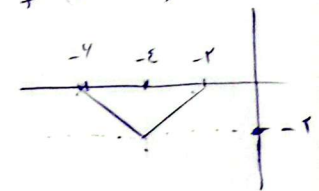
$$y = f(x-r)$$



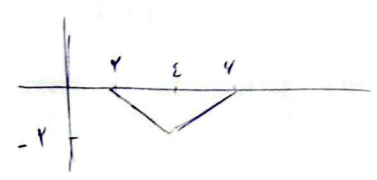
$$f(n)$$



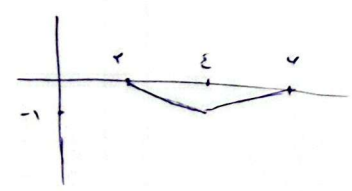
$$f(\varepsilon+n)$$



$$f(\varepsilon-n)$$



$$\frac{1}{r} f(\varepsilon-n)$$



$$f(n-1) = g(n) \quad (1)$$

$$n-1 = -1 \Rightarrow n = 0$$

$$\Rightarrow g(0) = 0$$

$$n-1 = 1 \Rightarrow n = 2$$

$$\Rightarrow g(1) = 0$$

$$n-1 = 0 \Rightarrow n = 1$$

$$\Rightarrow g(2) = 0$$

$$\frac{q}{r} = S_1 + S_2$$

$$\frac{q}{r} = \frac{rx \cdot \frac{1}{r}}{r} + \frac{(a-r) \cdot \frac{1}{r}}{r}$$

$$\frac{1}{r} = \frac{a^r - \frac{1}{2}a + \frac{1}{2}}{r}$$

$$\Rightarrow a^r - \frac{1}{2}a + \frac{1}{2} = 0$$

$$\Rightarrow a < \frac{1}{r}$$

~~scribbles~~

ملاحظة

(9)

$$-f(-1) + r = r$$

$$\Rightarrow f(-1) = 0$$

$$-f(-\frac{1}{e}) + r = 0$$

$$\Rightarrow f(-\frac{1}{e}) = r$$

$$-f(0) + r = -1$$

$$\Rightarrow f(0) = r$$

$$-f(\frac{1}{e}) + r = 0$$

$$f(\frac{1}{e}) = r$$

$$f(1) = 0$$

$$f(n-1) = g(n)$$

$$n-1 = -1 \Rightarrow n = 0$$

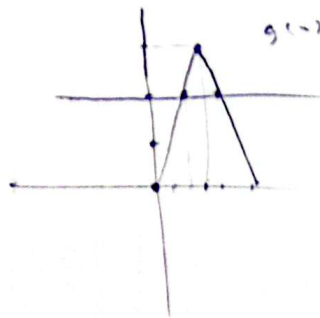
$$g(0) = 0$$

$$g(\frac{1}{e}) = r$$

$$g(1) = 0$$

$$g(\frac{2}{e}) = r$$

$$g(r) = 0$$



$$S = \frac{\frac{r}{e} \cdot \frac{1}{r}}{r} = \frac{1}{e}$$