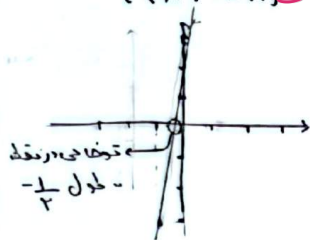


⑦

$$f(x) - x + 1 \geq 0 \quad \begin{cases} x \geq \omega & \forall x - 1 - x + 1 \geq 0 = x \geq 0; \quad x \geq \omega \Rightarrow D = [\omega, +\infty) \quad I \\ x < \omega & f(x) - x + 1 \geq 0 \quad \forall x + f \geq 0; \quad x < \omega \Rightarrow D = \left[-\frac{f}{\gamma}, \omega\right) \quad II \end{cases}$$

$$IV \cap I \Rightarrow n_f = [-\frac{f}{\pi}, \infty)$$

[illegible]



$$f(n) = \begin{cases} \frac{n^4 + 4n^2 - n - 4}{n^2 - 1} & ; n \neq \pm 1 \\ \frac{a + b}{n + b} & ; n = \pm 1 \end{cases}, \quad g(n) = n + c$$

$$\xrightarrow{n=0} g(n) = f(n) \rightarrow C = \frac{-4}{-1} = 4$$

$$\left. \begin{array}{l} \xrightarrow{n=1} \quad \frac{a+p}{1+b} = 1+p \rightarrow a+p = 1+b \\ \xrightarrow{n=-1} \quad \frac{-a+p}{-1+b} = -1+p \rightarrow -a+p = -1+b \end{array} \right\} \Rightarrow$$

$$u_b - a = 1$$

$$b + a = 10$$

$$* b = r \rightarrow b = \frac{1}{r}$$

$$b + c = \frac{3}{2}$$

$$f(n) = \frac{n+1}{n-1} \quad g(n) = \frac{n^2-1}{n^2+an+b} = \frac{(n+1)(n-1)}{n^2+an+b}$$

$$\frac{n+1}{n-2} = \frac{(n+1)(n-1)}{n^2 + an + b} \Rightarrow \frac{n+1}{n-2} = \frac{n+1}{n-1}$$

مثبت (n) تنها n را در دایره است. فاقد نتیجی گیریم مخرج (n) را
دقیقه مضاعف C را دارد از طرف دیگر (n) با عمل اضافی
 $1-n$ از صورت مثبت بشود پس با این عامل در مخرج وجود داشته
باشد تا امکان بساز کرد و در این دایره ضامی بوجود میار

$$\Rightarrow a = -1 \quad b = 1 \quad c = 1$$

$$a+b+c = 0 \quad \checkmark$$

$$f(n) = (n-r)^r (n-1) \quad , \quad g(n) = f(n+1), \quad f(1-n) = ?$$

$$f(n+1) = (n-4)^4 n \quad f(1-n) = -n(-n-4)^4 = -n(n+4)^4$$

$$g(n) = n(n-1)^2 - n(n+1)^2 = n[(n-1)^2 - (n+1)^2] = n(-4n) = -4n^2$$

①

$$f(1-2n) = \begin{cases} \sqrt{n} + 1 & n \leq 0 \\ \sqrt{n} & n > 0 \end{cases} \quad f(-1) + f(3)$$

(2)

$$1-2n = -1 \rightarrow n=1 \Rightarrow \sqrt{1} = 1 = f(-1)$$

$$1-2n = 3 \rightarrow n=-1 \Rightarrow \sqrt{-1} + 1 = 1 = f(3)$$

$$\rightarrow f(-1) + f(3) = 1 + 1 = 2$$

$$f(n + \sqrt{n}) = n + \sqrt{n}$$

سوال ١٠

(2)

$$n + \sqrt{n} = 9 \rightarrow \sqrt{n} = 9 - n$$

$$n = 36 + 2 \times 12n$$

$$n^2 - 12n + 36 = 0 \rightarrow (n-6)(n-6) = 0$$

$$n = 6$$

$$f(4) = 4 + 12 = 16$$

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

سوال ١١

(2)

$$f(n-1) = (n-1)^2 + (n-1)$$

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

$$f(1-n) = f(-(n-1)) = -f(n-1) = -(n-1)^2 - (n-1)$$

$$f(n) = \sqrt{n-1} + k-1, \quad g(n) = \sqrt{n-1} + 3k, \quad \forall f-g = \{(1, k)\}, \quad 3a - \frac{b}{4} - k = ?$$

سوال ١٢

(2)

$$D_f = \{x \mid x-1 \geq 0\} \rightarrow x \geq 1$$

$$D_g = \{x \mid x-1 \geq 0\} \rightarrow x \geq 1$$

$$\Rightarrow D_f \cap D_g = \{1\} \rightarrow \frac{3a}{4} = \frac{b}{4} = 1 \rightarrow a = \frac{4}{3}, b = 4$$

$$\forall f(1) - g(1) = k \rightarrow (\sqrt{1-1} + k-1) - (\sqrt{1-1} + 3k) = k \rightarrow k-1-3k = k \rightarrow -2k = 4$$

$$k = -2$$

$$3a - \frac{b}{4} - k = 3\left(\frac{4}{3}\right) - \frac{4}{4} - (-2) = 3$$

$$f(n) = \sqrt{m-n} + n, \quad g(n) = \sqrt{m+n} \quad D_{f \cap g} = [-1, v], \quad f-g(3) = 4\sqrt{2}$$

سوال ١٣

(2)

$$D_f = \{x \mid m-x \geq 0\} \rightarrow x \leq m$$

$$D_g = \{x \mid x+1 \geq 0\} \rightarrow x \geq -1$$

$$\rightarrow [-1, m] \Rightarrow m = 3$$

$$f(3) - g(3) = 4\sqrt{2} \rightarrow \sqrt{m-3} + 3 - \sqrt{m+3} = 4\sqrt{2}$$

$$m = 15$$

$$m+n = 15 + 3 = 18$$