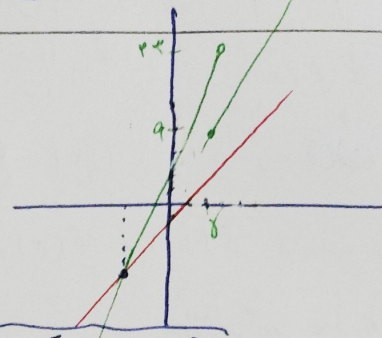


$$y = \sqrt{f(m) - m + 1} \rightarrow \begin{cases} 3 \geq 0 \rightarrow f(m) \geq m - 1 \end{cases}$$

$$f(m) = \begin{cases} 2m-1 & \text{if } [m] > f \\ fm+3 & \text{if } [m] \leq f \end{cases} \rightarrow f(m) = \begin{cases} 2m-1 & \text{if } m \geq 0 \\ fm+3 & \text{if } m < 0 \end{cases}$$



$$\rightarrow \begin{cases} 2m-1 \geq m-1 \rightarrow 2m \geq m \xrightarrow{m \geq 0} \checkmark \\ fm+3 \geq m-1 \rightarrow 3m \geq -4 \rightarrow m \geq -\frac{4}{3} \end{cases}$$

$$y = \frac{pf^m + 34m^2 + 18m + 3}{(fm^2 + fm + 1)^p} \rightarrow m = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-f \pm \sqrt{0}}{2} = -\frac{1}{p} \Rightarrow D_f = \mathbb{R} - \left\{-\frac{1}{p}\right\}$$

$$\hookrightarrow D_f = \mathbb{R} - \left\{-\frac{1}{p}\right\}$$

$$\xrightarrow{\text{مشتق}} \frac{p(18m^2 + 12m + 4)}{(fm^2 + fm + 1)^{p+1}} = \frac{p((2m)^2 + 3(2m) + 1)}{14(m + \frac{1}{p})^p} = \frac{p(2m+1)^p}{14(m + \frac{1}{p})^p} = \frac{p(1 + \frac{m}{1/p})^p}{14(m + \frac{1}{p})^p} \Rightarrow y = \frac{p}{p(m + \frac{1}{p})} = \frac{p}{pm+1}$$

$$f(m) = \begin{cases} \frac{m^2 + 2m - m - 1}{m^2 - 1} & \text{if } m \neq \pm 1 \\ \frac{am+r}{m+b} & \text{if } m = \pm 1 \end{cases} \quad f=g \rightarrow \begin{cases} D_g = \mathbb{R} \\ D_f = \mathbb{R} \end{cases}$$

$$\hookrightarrow \frac{(m-1)(m^2+m+1)}{(m-1)(m+1)} = \frac{(m+1)(m+1)}{m+1} = m+1$$

$$g(m) = m + c \rightarrow m + c = m + 1 \rightarrow c = 1$$

$$b + c = ? \quad \begin{matrix} m = \pm 1 \\ +1 \\ -1 \end{matrix} \quad \begin{matrix} \frac{a+1}{1+b} = 1 \\ \frac{a-1}{-1+b} = 1 \end{matrix} \rightarrow \begin{matrix} a+1 = 1+b \\ -a+1 = 1-b \end{matrix} \rightarrow \begin{matrix} a = b \\ -a = -b \end{matrix} \rightarrow a = b = 1$$

$$f(m) = \frac{m+1}{m-c} \rightarrow \frac{m+1}{m-c} = \frac{(m-1)(m+1)}{m^2 + am + b}$$

$$g(m) = \frac{m^2 - 1}{m^2 + am + b} \rightarrow \frac{m+1}{m-c} = \frac{(m-1)(m+1)}{(m-c)(m-c)}$$

$$f=g \quad a+b+c=? \quad \hookrightarrow (m-c)^2 = (m-1)^2 = m^2 - 2m + 1 \rightarrow \begin{cases} b = 1 \\ a = -2 \end{cases}$$

$$\hookrightarrow (-2) + (1) + (1) = 0$$

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

$$g(m) = f(m+1) + f(1-m) = ?$$

$$\hookrightarrow \begin{cases} f(m+1) = (m+1-2)^2(m+1-1) = (m-1)^2(m) \\ f(1-m) = (1-m-2)^2(1-m-1) = (-m-1)^2(-m) = (m+1)^2(-m) \end{cases}$$

$$\Rightarrow (m-1)^2(m) + (m+1)^2(-m) \rightarrow (m^2 - 2m + 1)m - (m^2 + 2m + 1)m = -4m$$

$$\rightarrow m^2 - 2m + 1 - m^2 - 2m - 1 = -4m$$

$$f(1-x) = \begin{cases} \sqrt{x} + x & x \leq 0 \\ \sqrt{x} & x > 0 \end{cases} \rightarrow 1-x=t \rightarrow x=1-t \rightarrow x = \frac{1-t}{y}$$

$$f(-1) + f(x) = 8 \quad \left\{ \begin{array}{l} f(-1) = \sqrt{-1} \implies \sqrt{1} = 1 \\ f(x) = \sqrt{x} + x = \sqrt{-1} + x = -1 + x = 1 \end{array} \right.$$

$$\hookrightarrow f(-1) + f(3) = f + 1 = 5$$

$$f(m + \sqrt{m}) = m^F + \psi m$$

$$\begin{aligned} f(m+\sqrt{n}) &= m^F + \sqrt{n} \\ f(4) &= ? \end{aligned} \quad \xrightarrow{x=4} \quad (f)^F + (\sqrt{n} \times f) = 4^2 + 14 = 30$$

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

$$\begin{aligned} f(n-1) + f(1-n) &\rightarrow f(n-1) + f(-(n-1)) = (n-1)^n + \cancel{(n-1)} + \cancel{(-(n-1))^n} + \cancel{(-(n-1))} \\ &\rightarrow (n-1)^n - (n-1)^n = \text{zero} \end{aligned}$$

$$f(m) = \sqrt{f_m - r_a + K - 1} \rightarrow \Phi_f = f_m, r_a \rightarrow m, \frac{r_a}{f}$$

$$g(m) = \sqrt{b - fm + m^2} \xrightarrow{f \leq 1} Dg = b - fm \geq 0 \rightarrow fm \leq b \rightarrow m \leq \frac{b}{f}$$

$$2\pi - g = \{ (1, k) \} \xrightarrow{D \neq D_g} \begin{cases} n \geq \frac{w}{F} a \\ n \leq \frac{b}{F} \end{cases} \longrightarrow \text{نقطه} = \{1\}$$

$$\begin{aligned} \psi_a - \frac{b}{r} - k &= ? \quad \left. \begin{array}{l} \text{if } x \leq \frac{b}{r} \\ \text{if } x > \frac{b}{r} \end{array} \right\} \begin{array}{l} \psi \sqrt{f(1) - \psi(\frac{b}{r})} + \psi k - \psi - \sqrt{f - f(1) - \psi k} = k \\ \psi(\frac{b}{r}) - (\frac{b}{r}) - (-1) = f - r + 1 = \psi \end{array} \end{aligned}$$

$$f(m) = \sqrt{m-x} + n \rightarrow m-x \geq 0 \rightarrow x \leq m \rightarrow x \leq V \rightarrow \boxed{m=V}$$

$$g(m) = \sqrt{m+1} \rightarrow D_g = m+1-1 \rightarrow m-1$$

$$D_{f \times g} = [-1, \sqrt{1}] \rightarrow D_f \cap D_g$$

$$f - g(x) = 4\sqrt{x} \rightarrow \begin{cases} f(m) = \sqrt{v-x} + n \\ g(m) = \sqrt{v+x} \end{cases} \xrightarrow{x=v} f - g = \sqrt{v-v} + n - \sqrt{v+v} = 4\sqrt{v}$$

$$\hookrightarrow v + 1\sqrt{v} - v = \omega + 1\sqrt{v}$$

$$\downarrow$$
$$y+n = 1\sqrt{y}$$

$$L \rightarrow \eta = \Lambda \sqrt{\gamma} - \gamma$$