

پ. آئین خوب نوشت

بنا خدا

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① $(\nu)(a+1)(a+\nu) = 3a-4+a \rightsquigarrow 1a+1f = 4a-4 \rightarrow 10a = -11 \rightsquigarrow a = -11/10$

② $\sqrt{\nu-\nu^2} + \frac{1}{\sqrt{\nu-\nu^2}} + \nu + \sqrt{\nu+\nu^2} + \frac{1}{\sqrt{\nu+\nu^2}} + \nu \rightsquigarrow \frac{1}{\sqrt{\nu-\nu^2}} \times \frac{\sqrt{\nu+\nu^2}}{\sqrt{\nu+\nu^2}} = \sqrt{\nu+\nu^2}$
 $\rightsquigarrow (\sqrt{\nu+\nu^2} + \sqrt{\nu-\nu^2})^2 = \nu+\nu^2 + \nu-\nu^2 + 2\sqrt{(\nu+\nu^2)(\nu-\nu^2)} = 2\nu + 2\sqrt{\nu^2-\nu^4} = 2\nu + 2\nu\sqrt{1-\nu^2}$
 $\sqrt{\nu+\nu^2} + \sqrt{\nu-\nu^2} = \sqrt{2\nu + 2\nu\sqrt{1-\nu^2}}$
 $\rightarrow f_+(\nu) (\sqrt{\nu-\nu^2} + \sqrt{\nu+\nu^2}) \rightsquigarrow \nu\sqrt{\nu^2+4}$

③ $\nu f(\eta) - \nu f(-\eta) = 4\eta^2 - \alpha$
 $(\nu f(-\eta) - \nu f(\eta) = 4\eta^2 + \alpha) \times -\frac{\nu}{\nu} \rightsquigarrow \nu f(\eta) - \nu f(-\eta) = 4\eta^2 + \alpha$

$-\frac{\nu}{\nu} f(\eta) = \frac{\nu}{\nu} \eta^2 + \frac{1}{\nu} \alpha \rightsquigarrow f(\eta) = \left(\frac{\nu}{\nu} \eta^2 + \frac{1}{\nu} \alpha \right) \times \left(-\frac{\nu}{\nu} \right) \rightsquigarrow f(\eta) = -\frac{\nu}{\nu} \eta^2 - \frac{1}{\nu} \alpha$

④ if $\alpha=0 \rightsquigarrow \nu f(0) = 3m-1$
 if $\alpha=-2 \rightsquigarrow \nu f(0) = 12 + \nu m + 3m - 1$
 $9m-3 = 12 + \nu m \rightarrow 8m = 15 \rightarrow m = 15/8$
 $f(0) = \frac{(3)(15/8) - 1}{\nu} = 9, 25$

⑤ if $\alpha=-1 \rightsquigarrow f(-1) + f(-1) = \frac{11}{-1} = \nu f(-1) = -11 \rightarrow f(-1) = -9$

⑥ $D_f = 1 - \alpha \gamma_0 \rightarrow 1 \geq \alpha$
 $D_g = (1-\alpha)^3 \geq 0$
 $1 - \alpha \geq 0 \rightarrow 1 \geq \alpha$

⑦ $D_f \rightarrow \alpha \geq 0$
 $D_g \rightarrow \alpha^3 \geq 0 \rightarrow \alpha \geq 0$

⑧ $D_f \rightarrow \alpha \geq 0$
 $D_g \rightsquigarrow \alpha - |\alpha| \geq 0 \rightarrow \alpha \geq |\alpha| \rightsquigarrow \alpha \geq 0$

⑨ الف) $\frac{\nu+1}{\nu-1} = 3$ ب) $\frac{\nu+3}{\nu-3}$ ج) $0 \times 1 = 0$

⑩ الف) $g(\eta) = \left\{ (1/10)(0,4) \left(\frac{1}{10}, 0 \right) \left(\frac{1}{10}, 2 \right) \left(\frac{4}{10}, -1 \right) \right\}$ ب) $h(\eta) = \left\{ (\nu, 1)(-2, 1)(0, 5)(3, -1)(-3, -1) \right\}$