

$$f_{(0)} = (a+1)^2 = 1a^2 + 2a + 1 \quad f_{(-2)} = 3a - 8$$

$$2f_{(0)} = 2a^2 + 4a + 2 = 3a - 8 + a = 4a - 8$$

$$4a = -18$$

$$a = \frac{-18}{4} = -\frac{9}{2}$$

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$$a = n \rightarrow \begin{cases} 2f_{(n)} - 3f_{(n-1)} = \varepsilon n^2 + a \\ 2f_{(n-1)} - 3f_{(n-2)} = \varepsilon(n-1)^2 + a \end{cases} \Rightarrow \begin{cases} 4f_{(n)} - 9f_{(n-1)} = 2\varepsilon n^2 + 4a \\ -4f_{(n-1)} + 6f_{(n-2)} = 2\varepsilon(n-1)^2 + 2a \end{cases}$$

$$-5f_{(n-1)} = 2\varepsilon n^2 + a$$

$$f_{(n)} = -\frac{2\varepsilon n^2 + a}{5}$$

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$$\begin{aligned} 2 - \sqrt{3} &= A \\ 2 + \sqrt{3} &= B \\ AB &= \varepsilon \cdot 3 = 1 \\ \sqrt{AB} &= 1 \Rightarrow \sqrt{A} = \frac{1}{\sqrt{B}} \\ \sqrt{B} &= \frac{1}{\sqrt{A}} \end{aligned} \Rightarrow \sqrt{A} + \frac{1}{\sqrt{A}} + 2 + \sqrt{B} + \frac{1}{\sqrt{B}} + 2 = (\sqrt{A} + \sqrt{B}) + \left(\frac{1}{\sqrt{A}} + \frac{1}{\sqrt{B}}\right) + \varepsilon$$

$$(\sqrt{A} + \sqrt{B})^2 = A + B + 2\sqrt{AB} = 2 + 2 = 4 \Rightarrow \sqrt{A} + \sqrt{B} = 2$$

$$2(\sqrt{A} + \sqrt{B}) + \varepsilon = 2\sqrt{4} + \varepsilon = 4 + \varepsilon$$

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$$a = 0 \rightarrow 2f_{(0)} = 3m - 1 \Rightarrow f_{(0)} = \frac{3m-1}{2} \Rightarrow \frac{3m-1}{2} = \frac{0m+10}{4}$$

$$18m - 4 = 10m + 20 \Rightarrow 8m = 24 \Rightarrow m = 3$$

$$a = -2 \rightarrow 4f_{(0)} = 14 + 2m + 3m - 1 = 5m + 13 \Rightarrow f_{(0)} = \frac{5m+13}{4}$$

$$\Rightarrow f_{(0)} = \frac{3m-1}{2} = \frac{3 \times 3 - 1}{2} = \frac{8}{2} = 4$$

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$$a = -1 \rightarrow f_{(-1)} + f_{(-1)} = \frac{3(1) - 12(-1) + 2}{-1} = \frac{3 + 12 + 2}{-1} = -17$$

$$\Rightarrow 2f_{(-1)} = -17 \Rightarrow f_{(-1)} = -\frac{17}{2}$$

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$1-a \geq 0$ $a \leq 1$ $(1-a)^2 \geq 0 \Rightarrow$ دایره مساوی اند $1-a \geq 0$ $a \leq 1$ $f(a) = (a-1)\sqrt{1-a}$ $g(a) = -\sqrt{(1-a)^2(1-a)}$ $= -(1-a)\sqrt{1-a}$ $= (a-1)\sqrt{1-a}$	$a=0 \rightarrow -1\sqrt{1} = -1$ $\rightarrow -\sqrt{1} = -1$ $a=-2 \rightarrow -3\sqrt{3}$ $\rightarrow -\sqrt{27} = -3\sqrt{3}$	۶	
$a \geq 0$ $a^3 \geq 0 \Rightarrow$ دایره مساوی اند $a \geq 0$ $f(a) = a\sqrt{a}$ $g(a) = \sqrt{a^2 a} = a\sqrt{a}$	$a=1 \rightarrow 1$ $\rightarrow 1$ $a=2 \rightarrow 2\sqrt{2}$ $\rightarrow \sqrt{8} = 2\sqrt{2}$	۷	
$a \geq 0$ $a- a \geq 0 \Rightarrow$ دایره مساوی اند $a \geq a \Rightarrow$ دایره مساوی اند $a \geq 0$	$a=1 \rightarrow [1-1]=0$ $\rightarrow 0$ $a=\frac{1}{\varepsilon} \rightarrow \left[\sqrt{\frac{1}{\varepsilon}} - \left[\sqrt{\frac{1}{\varepsilon}} \right] \right] = 0$ $\rightarrow \sqrt{\frac{1}{\varepsilon}} - \frac{1}{\varepsilon} = 0$	۸	
$\frac{f(1)+g(1)}{f(1)-g(1)}$ $= \frac{2+1}{2-1} = \frac{3}{1} = 3$	$\frac{f(2)+g(2)}{f(2)-g(2)}$ $= \frac{3+3}{3-3} \Rightarrow$ تقریباً ۰ نسبت ج.م.م	$-f(0)g(-1)$ $= 0 \times 1 = 0$	۹
$3a-1=2 \rightarrow a=1$ $3a-1=-1 \rightarrow a=0$ $3a-1=0 \rightarrow a=\frac{1}{3}$ $3a-1=-2 \rightarrow a=-\frac{1}{3}$ $3a-1=3 \rightarrow a=\frac{4}{3}$ $\Rightarrow g(a) = \left\{ (1,1)(0,1)\left(\frac{1}{3},0\right)\left(-\frac{1}{3},2\right)\left(\frac{4}{3},-1\right) \right\}$	$(الف) \quad (ب) \quad a =2 \rightarrow a=\pm 2$ $ a =-1 \times$ $ a =0 \rightarrow a=0$ $ a =-2 \times$ $ a =3 \rightarrow a=\pm 3$ $h(a) = \left\{ (2,1)(-2,1)(0,0)(3,-1)(-3,-1) \right\}$	۱۰	