

$$f_{(0)} = (a+1)^2 = 7a+1$$

$$f_{(-2)} = 3a - \varepsilon$$

$$2f_{(0)} = 14a+2 = 3a - \varepsilon + a = \varepsilon a - \varepsilon$$

$$10a = -11$$

$$a = \frac{-11}{10} = -\frac{11}{10}$$

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$$n = n \rightarrow (2f_{(-n)} - 3f_{(n)} = \varepsilon n^2 + n)^2 \Rightarrow \begin{aligned} 4f_{(n)} - 9f_{(n)} &= 14n^2 + 4n \\ -4f_{(n)} + \varepsilon f_{(n)} &= 14n^2 - 4n \end{aligned}$$

$$-5f_{(n)} = 10n^2 + n$$

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

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$$2-\sqrt{3}=A$$

$$2+\sqrt{3}=B$$

$$AB = \varepsilon^2 = 1$$

$$\sqrt{AB} = 1 \Rightarrow \sqrt{A} = \frac{1}{\sqrt{B}}$$

$$\sqrt{B} \cdot \frac{1}{\sqrt{A}}$$

$$\Rightarrow \sqrt{A} + \frac{1}{\sqrt{A}} + 2 + \sqrt{B} + \frac{1}{\sqrt{B}} + 2 = (\sqrt{A} + \sqrt{B}) + \left(\frac{1}{\sqrt{A}} + \frac{1}{\sqrt{B}}\right) + \varepsilon$$

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

$$2-\sqrt{3} + 2+\sqrt{3} = 4$$

$$= 4 \Rightarrow \sqrt{A} + \sqrt{B} = \sqrt{4}$$

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

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$$n=0 \rightarrow 2f_{(0)} = 3n-1 \Rightarrow f_{(0)} = \frac{3n-1}{2}$$

$$\Rightarrow \frac{3n-1}{2} = \frac{0n+10}{4}$$

$$n=-2 \rightarrow 4f_{(0)} = 14 + 2n + 3n-1 = 0n+10$$

$$\Rightarrow f_{(0)} = \frac{0n+10}{4}$$

$$11n-4 = 10n+30$$

$$11n = 34 \Rightarrow n = \frac{34}{11}$$

$$\Rightarrow f_{(0)} = \frac{3n-1}{2} = \frac{3 \cdot \frac{34}{11} - 1}{2} = \frac{25}{11}$$

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

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

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$1-a \geq 0$ $a \leq 1$ $(1-a)^2 \geq 0 \Rightarrow$ دایره مساوی است $1-a \geq 0$ $a \leq 1$ $f(a) = (a-1)\sqrt{1-a}$ $g(a) = -\sqrt{(1-a)^2(1-a)}$ $= -(1-a)\sqrt{1-a}$ $= (a-1)\sqrt{1-a}$	$a=0 \rightarrow -1\sqrt{1} = -1$ $\rightarrow -\sqrt{1} = -1$ $a=2 \rightarrow -3\sqrt{3}$ $\rightarrow -\sqrt{27} = -3\sqrt{3}$	دایره مساوی است. ۶
$a \geq 0$ $a^3 \geq 0 \Rightarrow$ دایره مساوی است $a \geq 0$ $g(a) = \sqrt{a^2 a} = a\sqrt{a}$	$f(a) = a\sqrt{a}$ $a=1 \rightarrow 1$ $\rightarrow 1$ $a=2 \rightarrow 2\sqrt{2}$ $\rightarrow \sqrt{8} = 2\sqrt{2}$	دایره مساوی است. ۷
$a \geq 0$ $a- a \geq 0 \Rightarrow$ دایره مساوی است $a \geq a \rightarrow \begin{cases} + \\ - \end{cases}$ $a \geq 0$	$a=1 \rightarrow [1-1] = 0$ $\rightarrow 0$ $a = \frac{1}{\varepsilon} \rightarrow \left[\sqrt{\frac{1}{\varepsilon}} - \left[\sqrt{\frac{1}{\varepsilon}} \right] \right] = 0$ $\rightarrow \sqrt{\frac{1}{\varepsilon}} - \frac{1}{\varepsilon} = 0$	دایره مساوی است. 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 $\frac{3+3}{3-3} \Rightarrow$ تقریباً ۰	$\frac{f(0) \cdot g(-1)}{f(0) - g(-1)}$ $= 0 \times 1 = 0$ 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