

$$2(a+1)(0+2) = 3a + 2(-2) + a \Rightarrow$$

$$14a + 14 = 3a - 4 + a \Rightarrow 10a = -18 \Rightarrow a = -1.8$$

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$$f\left(\frac{4-2\sqrt{3}}{2}\right) + f\left(\frac{4+2\sqrt{3}}{2}\right) = f\left(\frac{(1-\sqrt{3})^2}{2}\right) + f\left(\frac{(1+\sqrt{3})^2}{2}\right) =$$

$$\frac{\sqrt{3}-1}{\sqrt{2}} + \frac{\sqrt{2}}{\sqrt{3}-1} + 2 + \frac{\sqrt{3}+1}{\sqrt{2}} + \frac{\sqrt{2}}{\sqrt{3}+1} \cdot 2 = \frac{2\sqrt{3}}{2} + 4 + \frac{2\sqrt{6}}{2} = 2\sqrt{6} + 4$$

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$$2f(n) - 3f(-n) = 5n^2 - n \quad * 2$$

$$2f(-n) - 3f(n) = 5n^2 + n \quad * 3$$

$$-5f(n) = 10n^2 - 2n + 15n^2 + 3n \Rightarrow f(n) = -5n^2 - \frac{n}{5}$$

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$$n = -2 \rightarrow 9f(0) = 19 + 2m + 3m - 1 = 18 + 5m \Rightarrow 9f(0) = 18 + 5m$$

$$n = 0 \rightarrow 9f(0) = 3m - 1 \quad 9f(0) =$$

$$\Rightarrow 3m - 1 = 18 + 5m \Rightarrow \frac{15}{2}m = 19 \Rightarrow m = \frac{19}{15}$$

$$f(0) = \frac{3m-1}{9} = 19/15$$

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$$2f(-1) = \frac{3+12+3}{-1} = -18 \Rightarrow f(-1) = -9$$

↑
n = -1

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$$D_f = (-\infty, 1] \quad \checkmark$$

$$D_g = (-\infty, 1] \quad \checkmark$$

$$(n-1)\sqrt{1-n} = -\sqrt{(1-n)^3} \Rightarrow f(n) = g(n)$$

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$$D_f = [0, \infty) \quad \checkmark$$

$$D_g = [0, \infty) \quad \checkmark$$

$$n\sqrt{n} = \sqrt{n^3} \Rightarrow g(n) = f(n)$$

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$$D_f = [0, \infty) \quad \checkmark$$

$$D_g = [0, \infty) \quad \checkmark$$

هر دو تابع همدار برابر هستند $\Rightarrow g(n) = f(n)$

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الف) $\left(\frac{f+g}{f-g}\right)(1) = \frac{2+1}{2-1} = 3$

ب) $\left(\frac{f+g}{f-g}\right)(2) = \frac{3+3}{3-3}$ تعریف نشده

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ج) $f(0)g(-1) = 0 \times 1 = 0$

د) $g(n) = \left\{ (1, 1), (0, 4), \left(\frac{1}{2}, 5\right), \left(-\frac{1}{2}, 2\right), \left(\frac{2}{3}, -1\right) \right\}$

$$2n_1 - 1 = n_2$$

ه) $h(n) = \left\{ (2, 1), (-2, 1), (0, 5), (3, -1), (-3, -1) \right\}$

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