

$$\left. \begin{aligned} f(n) &= (n-1)\sqrt{1-n} \rightarrow 1-n \geq 0 \rightarrow 1 \geq n \\ g(n) &= \sqrt{(1-n)^3} \rightarrow (1-n)^3 \geq 0 \rightarrow 1-n \geq 0 \rightarrow 1 \geq n \end{aligned} \right\} \text{برابرند} \quad -9$$

$$\left. \begin{aligned} f(n) &= n\sqrt{n} \rightarrow n \geq 0 \\ g(n) &= \sqrt{n^3} \rightarrow n \geq 0 \end{aligned} \right\} \text{برابرند} \quad -7$$

$\sqrt{n^3 \cdot n} \rightarrow |n|\sqrt{n}$

$$\left. \begin{aligned} f(n) &= [\sqrt{n} \cdot \lfloor n \rfloor] \rightarrow x \geq 0 \rightarrow f(n) = 0 \text{ برای } n \text{ صحیح و } n \text{ صحیح} \\ g(n) &= \sqrt{n-|n|} \rightarrow n-|n| \geq 0 \rightarrow n \geq |n| \rightarrow n \geq 0 \rightarrow g(n) = 0 \end{aligned} \right\} \text{برابرند} \quad -8$$

$$\left. \begin{aligned} \left( \frac{f+g}{f-g} \right) (1) &\rightarrow \left. \begin{aligned} f(1) &= 2 \\ g(1) &= 1 \end{aligned} \right\} \rightarrow \frac{2+1}{2-1} = 3 \\ \left( \frac{f+g}{f-g} \right) (2) &\rightarrow \left. \begin{aligned} f(2) &= 2 \\ g(2) &= 2 \end{aligned} \right\} \rightarrow \frac{2+2}{2-2} = \frac{4}{0} \times \\ f(0) \cdot g(-1) &\rightarrow 0 \end{aligned} \right\} \quad -9$$

$$\begin{aligned} g(n) &= f(n-1) \rightarrow n-1=2 \rightarrow n=3 \rightarrow (3, 1) \text{ و } n-1=-1 \rightarrow n=0 \rightarrow (0, 1) \\ n-1=0 &\rightarrow n=\frac{1}{2} \rightarrow \left(\frac{1}{2}, 1\right) \quad n-1=5 \rightarrow n=6 \rightarrow (6, 1) \\ n-1=2 &\rightarrow n=\frac{5}{2} \rightarrow \left(\frac{5}{2}, 1\right) \rightarrow g(n) = \left\{ (1, 1), (0, 1), \left(\frac{1}{2}, 1\right), \left(-\frac{1}{2}, 2\right), \left(\frac{3}{2}, 1\right) \right\} \\ h(n) &= f(|n|) \rightarrow |n|=2 \rightarrow (2, 1) \text{ یا } (-2, 1) \quad |n|=0 \rightarrow (0, 1) \\ |n|=-1 &\text{ یا } -2 \quad |n|=2 \rightarrow (2, 1) \text{ یا } (-2, 1) \Rightarrow h(n) = \left\{ (2, 1), (-2, 1), (0, 1), \left(\frac{1}{2}, 1\right), \left(-\frac{1}{2}, 2\right) \right\} \end{aligned}$$

$$2f(a) = 18a + 17 \quad f(-2) = 5a - 4$$

$$\rightarrow 18a + 17 = 5a - 4 + a \rightarrow 10a = -11 \rightarrow a = -\frac{11}{10}$$

$$f(n) = |n| + \frac{1}{|n|} + c \rightarrow 2\sqrt{2} + \frac{1}{2\sqrt{2}} + c + 2\sqrt{2} + \frac{1}{2\sqrt{2}} + c$$

$$\rightarrow \frac{1}{2\sqrt{2}} \times \frac{2\sqrt{2}}{2\sqrt{2}} = \frac{2\sqrt{2}}{1} \quad \frac{1}{2\sqrt{2}} \times \frac{2\sqrt{2}}{2\sqrt{2}} = \frac{2\sqrt{2}}{1} \rightarrow 2\sqrt{2} + 2\sqrt{2} + 2 + 2\sqrt{2} + 2\sqrt{2} + 2 = 12$$

$$\rightarrow \sqrt{12} = 2\sqrt{3}$$

$$2f(n) - 2f(n) = 8n^2 - n \rightarrow 2f(-n) - 2f(n) = 8n^2 + n$$

$$\Rightarrow 4f(n) - 4f(n) = 16n^2 - 2n$$

$$-4f(n) + 4f(-n) = 16n^2 + 2n$$

$$-8f(n) = 16n^2 + 2n \rightarrow f(n) = -\frac{8n^2 + n}{8}$$

$$\text{if } n=0 \rightarrow (0+2)f(0) - 2(0)f(2) = 8(0)^2 - 2(0) \Rightarrow 2f(0) = 0 \Rightarrow f(0) = 0$$

$$\text{if } n=-2 \rightarrow (-2+2)f(-2) - 2(-2)f(0) = 8(-2)^2 - 2(-2) \rightarrow 4f(0) = 32 + 4 \Rightarrow f(0) = 9$$

$$\rightarrow -14M + 5 = -10f(0)$$

$$14M + 5 = 10f(0)$$

$$5 = 10f(0) \rightarrow f(0) = \frac{5}{2}$$

$$\text{if } n=-1 \rightarrow f(-1) + f\left(\frac{1}{-1}\right) = \frac{2(-1)^2}{-1} - 12(-1) + 2$$

$$\rightarrow 2f(-1) = -11 \rightarrow f(-1) = -\frac{11}{2}$$