

۲. امرینی عالی و کامل نوٹس!

$$\begin{aligned} 2(a+1)(a+2) &= 2a^2 - r^2 + a \Rightarrow 11a + 11r = r^2 - r^2 \Rightarrow 10a = -11 \\ \text{اسی طرح کریں} \\ a &= -\frac{11}{10} \end{aligned}$$

د

$$\sqrt{n} = \frac{\sqrt{x} - \sqrt{y}}{r} = \frac{\sqrt{x^2 - y^2}}{r}$$

$$\downarrow \quad \quad \quad \rightarrow \quad \quad \quad \sqrt{x^2 - y^2} = \frac{x^2 - y^2}{\sqrt{x}}$$

$$\frac{1}{\sqrt{n}} = \frac{r}{\sqrt{x} - \sqrt{y}} = \frac{\sqrt{x} + \sqrt{y}}{r}$$

$$\Rightarrow \frac{\sqrt{x} - \sqrt{y}}{r} + \frac{\sqrt{x} + \sqrt{y}}{r} + r = \sqrt{x} + \sqrt{y}$$

$$\sqrt{n} = \frac{\sqrt{x^2 - y^2}}{r}$$

$$\frac{1}{\sqrt{n}} = \frac{r}{\sqrt{x} + \sqrt{y}} \Rightarrow \frac{\sqrt{x} - \sqrt{y}}{r} \cdot \frac{\sqrt{x} + \sqrt{y}}{r} + \frac{\sqrt{x} - \sqrt{y}}{r} = \sqrt{x} + \sqrt{y}$$

$$\frac{\sqrt{x} - \sqrt{y}}{r} + \frac{\sqrt{x} - \sqrt{y}}{r} = \sqrt{x} + \sqrt{y}$$

$$f(-a) - \frac{1}{2}f(a) = \frac{1}{2}a^2 + a$$

$\Downarrow \times 2$

$$2f(-a) - f(a) = a^2 + 2a$$

$$f(a) - \frac{1}{2}f(-a) = \frac{1}{2}a^2 - a$$

$\times 2 \Downarrow$

$$2f(a) - f(-a) = a^2 - 2a$$

$$\frac{2f(a) - f(-a) + f(-a) - \frac{1}{2}f(a)}{-2f(a) + f(a)} = \frac{a^2 - 2a + \frac{1}{2}a^2 + a}{-a^2 - a}$$

$$-2f(a) = \frac{a^2 - 2a + \frac{1}{2}a^2 + a}{-a^2 - a}$$

$$f(a) = -\frac{a^2}{2} - \frac{1}{2}a$$

$\textcircled{2}$

$$f(0) \Rightarrow 1f(0) - 0 = 1^m - 1 \quad 1f(0) = 1^m - 1 \xrightarrow{\times 1} 1f(0) = 1^m - 1$$

$$f(-1) \Rightarrow 0 + 1f(0) = 1^1 + 1^m - 1 \quad 1f(0) = 1^m + 1$$

$$\left. \begin{array}{l} 1f(0) = 1^m - 1 \\ 1f(0) = 1^m + 1 \end{array} \right\} \begin{array}{l} 1^m - 1 = 1^m + 1 \\ 1^m = 1 \end{array} \quad m = \frac{9}{1}$$

$$1f(0) = \left(1^m \times \frac{9}{1}\right) - 1 = \frac{1^m 9}{1} \Rightarrow f(0) = \frac{9}{1}$$

$$f(-1) + f\left(\frac{1}{-1}\right) = 1f(-1) = \frac{1^3 + 1^2 + 1^1}{-1} = -1/1 \quad f(-1) = -9$$

$$(n-1)\sqrt{1-n} \quad 1-n \geq 0 \quad (1 \geq n) \Rightarrow \text{دايه} \checkmark \quad g(n) = f(n) = (n-1)\sqrt{1-n} \leq -(1-n)\sqrt{1-n}$$

$$-\sqrt{1-n}^3 \quad (1-n)^3 \geq 0 \quad 1-n \geq 0 \quad (1 \geq n) \Rightarrow \text{دايه} \checkmark$$

$$-\sqrt{1-n}^3 \times \sqrt{1-n} = -|1-n|\sqrt{1-n}$$

چون دايه $[-\infty, 0]$

$$n\sqrt{n} \quad (n \geq 0) \Rightarrow \text{دايه} \checkmark \quad \leftarrow f(n) = g(n)$$

$$\sqrt{n}^3 \quad n^3 \geq 0 \quad (n \geq 0) \Rightarrow \text{دايه} \checkmark \quad \sqrt{n} \times \sqrt{n} = |n|\sqrt{n} = n\sqrt{n}$$

چون دايه $[0, \infty)$

$$\text{الف) } \left\{ \left(1, \frac{3}{1}\right), \left(2, \frac{4}{0}\right), \left(3, \frac{6}{-1}\right) \right\} = \left\{ (1, 3), \left(3, \frac{3}{-1}\right) \right\} \Rightarrow f(1) = 3$$

$$\text{ب) } \text{طبق الف} \Rightarrow f(2) = 0$$

$$0 \times 4 = 0$$

1- ~~همواره 0 است~~ $\Rightarrow$ دامنه $\Rightarrow$ $\sqrt{n} \cdot \boxed{n \geq 0}$ $f(n) = \left[\sqrt{n} - \lfloor \sqrt{n} \rfloor \right]$

$\Rightarrow \sqrt{n-n} = 0$ $\Rightarrow n \geq 0$ $\Rightarrow$ $n \geq |n|$ و $n - |n| \geq 0$ $g(n) = \sqrt{n - |n|}$
 چون دامنه $n \geq 0$ $\Rightarrow$ $g(n) = f(n)$ $\Rightarrow$ $\sqrt{n-n} = 0$ $\Rightarrow$ $n \geq 0$ $\Rightarrow$ $n \geq |n|$ و $n - |n| \geq 0$ $g(n) = \sqrt{n - |n|}$
 برد همواره 0 است

انتخاب =

اگر دامنه اعداد ~~مربع کامل~~ باشد مثل 0، 1، 4، 9، 16 که مشخص است 0 می شود

$$\left[\sqrt{\frac{3}{4}} - \left[\sqrt{\frac{3}{4}} \right] \right] = \left[\frac{3}{4} - \frac{3}{4} \right] = 0$$

اگر دامنه اعداد ~~مربع نباشند~~ باز هم 0 می شود

به 0 دو برابر پایین گرد می شه!

$$\left[\sqrt{\frac{1}{2}} - \left[\sqrt{\frac{1}{2}} \right] \right] = \left[\frac{1}{2} - \frac{1}{2} \right] = 0$$

$$\text{الف. } \left\{ \left(1, \frac{3}{1} \right), \left(2, \frac{4}{0} \right), \left(3, \frac{6}{-2} \right) \right\} = \left\{ (1, 3), \left(3, \frac{3}{-2} \right) \right\} \Rightarrow f(1) = 3$$

$$\text{ب. } \Rightarrow f(2) = \emptyset$$

$$0 \times 1 = 0$$

تكراری !

