



$$f \circ f(n) = r_n + 3$$

$$g(\underbrace{r_n + 3}_t) = r_n - 2 \Rightarrow r_n + 3 = t \rightarrow n = \frac{t-3}{r}$$

$$f \circ f(n) = f(-1) + 3 = -1$$

$$g(-1) \rightarrow r_n + 3 = -1 \rightarrow r_n = -4 \rightarrow n = -2$$

$$g(-1) = r(-2) - 2 = -4$$

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$$\frac{1}{(n+1) - r\sqrt{n+1}} \quad \left\{ \begin{array}{l} \text{تقارن در صورت} \\ \text{ممنوع نباشد} \end{array} \right. \quad n - n \neq r\sqrt{n-n} \Rightarrow n \neq 0$$

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به ازای متغیر

$$\text{مثبت} \rightarrow r_n \neq r\sqrt{r_n} \rightarrow n \neq r\sqrt{r_n} \rightarrow \sqrt{n}(\sqrt{n} - r\sqrt{r}) \neq 0 \rightarrow n \neq 1 \rightarrow \text{Range} = (0, +\infty) - \{1\}$$

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$$(f+g) \circ f \rightarrow \sqrt{1-(1-r^2)} + \sqrt{1-r^2} = \pm n + \sqrt{1-r^2} \Rightarrow \frac{-1}{-1} + \frac{1}{1} =$$

$$P(f+g) \circ f = [-1, 1]$$

الف

$$f\left(\frac{r_{n+1}}{n-r}\right) = r_n + d \rightarrow r_{n+1} = t_n - r \rightarrow n(r-t) = -rt - 1 \rightarrow n = \frac{rt+1}{t-r}$$

$$f(t) = \frac{1t + r + d - 1}{t-r} \rightarrow f(t) = \frac{rt-1}{t-r} \rightarrow f(n) = \frac{1r_n-1}{n-r} \rightarrow n+3$$

$$f\left(n + \frac{1}{n}\right) = \left(n^2 + \frac{1}{n^2}\right) \rightarrow t^2 = n^2 + \frac{1}{n^2} + r_n + \frac{r}{n} \rightarrow t^2 - r^2 t = n^2 + \frac{1}{n^2} \rightarrow f(t) = t^2 - r^2 t$$

$$f(n) = n^2 - r^2 n$$

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$$g(n) = (n-1)(n-r\sqrt{r}) \quad \left\{ \begin{array}{l} \text{1} \\ \text{2} \end{array} \right. \quad g \circ f(n) = (n\sqrt{n} - 1)(n\sqrt{n} - r\sqrt{r}) \rightarrow n = 1, 2 \rightarrow$$

$$f(n) = n\sqrt{n}$$

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$$|r-1| = 1$$