

$$f(n) = \sqrt{1-n^2} \Rightarrow 1-n^2 \geq 0 \Rightarrow -1 \leq n \leq 1 \Rightarrow n = -1, 0, 1$$

$$f(-1) = \sqrt{1-(-1)^2} = \sqrt{0} = 0$$

$$f(0) = 1 \quad f(1) = 0$$

$$g(-1) = 1, g(0) = 4, g(1) = 2$$

$$n = -1 \rightarrow 2g - 3f \rightarrow 2 - 3(0) = 2$$

$$n = 0 \rightarrow 2g - 3f \rightarrow 2(4) - 3(1) = 5$$

$$n = 1 \rightarrow 2g - 3f \rightarrow 2(2) - 3(0) = 4 \Rightarrow R_f = \{2, 4, 5\}$$

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$$f(n) = 2n - 1 \rightarrow D_f = [3, +\infty) \rightarrow f(3) = 5 \sim R_f: [5, +\infty)$$

$$g(n) = \frac{1}{2}n + 3 \rightarrow D_g = (-\infty, 3] \rightarrow g(3) = 4 \sim R_g: (-\infty, 4]$$

$$R_f \cup R_g = (-\infty, 4] \cup [5, +\infty)$$

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$$y = \frac{-n^2}{4} + n + 3 \Rightarrow \frac{-n^2}{4} + n + 3 > \frac{5}{4} \Rightarrow \frac{-n^2}{4} + n + \frac{5}{4} > 0 \Rightarrow \frac{x-2}{4} > 0$$

$$n^2 - 4n - 5 < 0 \Rightarrow \frac{-1-5}{+1-1} \Rightarrow (-1, 5) \Rightarrow a = -1, b = 5$$

$$\sqrt{b-a} = \sqrt{5-(-1)} = \sqrt{6} = \textcircled{2}$$

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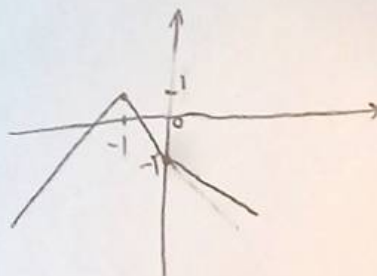
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$-f_n + 1$	$-2n + 4$	$2n - 2$
$f_n - 1$		

$$\begin{aligned} n = 3 & \sim 2 \\ n = 2 & \sim 2 \\ n = 1 & \sim 4 \end{aligned}$$

در این مقدار $n=2$ $\frac{1}{2}$

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-1	0
$n+2$	$-3n-2$
$-n-2$	



$$R_f: (-\infty, 1]$$

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$$y = \frac{n^r + 2n + m}{n+1} \quad R_f = \mathbb{R}$$

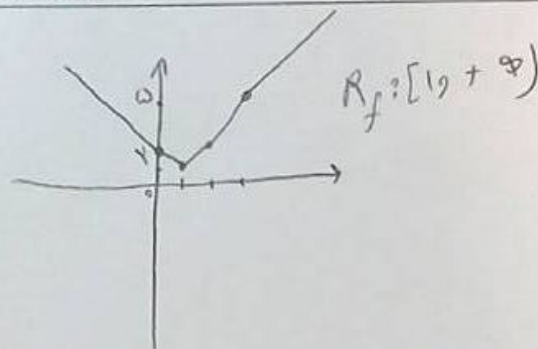
$$y(n+1) = n^r + 2n + m \Rightarrow n^r + 2 - y/m + (n-y) = 1 \leadsto b^r - f_{ac} \Rightarrow$$

$$(2-y)^r - f(n-y) = y^r + 2\Delta - 10y - 4m + 4y - y^r - 4y + 2\Delta \cdot 5m \Rightarrow$$

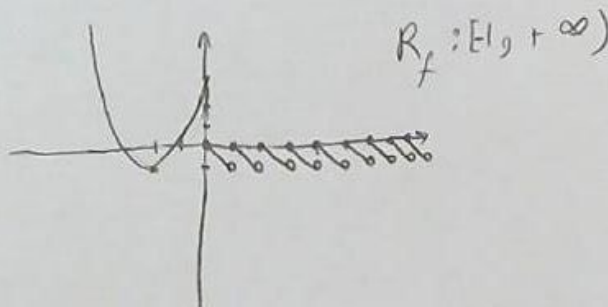
$$17y - (4\Delta - 4m) \times 4 = 17y - 16\Delta + 16m = 17m - 4\Delta \cdot 5 \rightarrow m \leq 5 \quad \boxed{m \neq 5} \quad \boxed{m < 5}$$

$(1, 2, 3)$ طبيعي

$$f(n) = \begin{cases} n+1 & ; n > 1 \\ n^2 - 2m + 1 & ; 0 \leq n \leq 1 \\ |n| + 1 & ; n < 0 \end{cases}$$



$$f(n) = \begin{cases} n^r + 2n + m & ; n \leq 0 \\ [2n] - 2m & ; n > 0 \end{cases}$$



$$y = a + 1 - \sqrt{2n + r} \quad D_f: [b, +\infty), R_f: (-\infty, d]$$

$$2n + r \geq 0 \Rightarrow n \geq -\frac{r}{2} \Rightarrow b = -\frac{r}{2} \quad n = -\frac{r}{2} \Rightarrow y = a + 1 - 0 = a + 1$$

$$d = a + 1 \rightarrow \boxed{a = r}$$

$$b = -\frac{r}{2}$$

$$a \times b = r \times -\frac{r}{2} = \boxed{-\frac{r^2}{2}}$$

$$f(n) = \sqrt{2n+1} + \sqrt{1-n} \leadsto -\frac{1}{2}n \leq 1$$

$$g(n) = \sqrt{2n+1} + \sqrt{1-n} - \sqrt{2n+1} - \sqrt{1-n}$$