

۱۷، ۷۵

نام و نام خانوادگی: علیرضا پروانغی پاسخنامه تشریحی تکلیف شماره ۸ کلاس: ۱۷، ۷۵

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

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

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

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

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

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

$$n = 1 \rightarrow 2g - 3f \rightarrow 2(2) - 3(0) = 4 \Rightarrow R_f = \{2, 4, 5\} \quad \text{مجموعه} \quad \text{دقت!} \quad \text{II}$$

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

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

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

$$y = -\frac{n^2}{4} + n + 3 \Rightarrow -\frac{n^2}{4} + n + 3 > \frac{3}{4} \Rightarrow -\frac{n^2}{4} + n + \frac{9}{4} > 0 \Rightarrow \frac{x-2}{x-2}$$

$$n^2 - 4n - 9 < 0 \Rightarrow \frac{-1 \pm \sqrt{1+9}}{2} \Rightarrow (-1, 3) \Rightarrow a = -1, b = 3$$

$$\sqrt{b-a} = \sqrt{3-(-1)} = \sqrt{4} = 2 \quad \checkmark$$

۱	۲	۳
$-f_n + 1$	$-2n + 4$	$2n - 2$
$f_n - 1$		

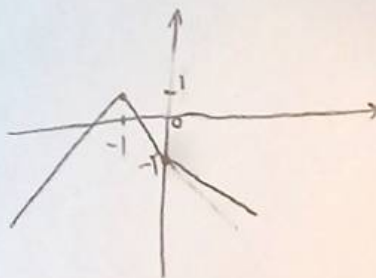
$$n = 3 \sim 5$$

$$n = 2 \sim 3$$

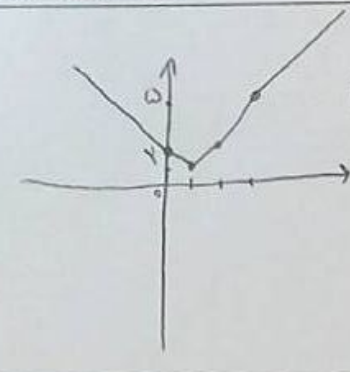
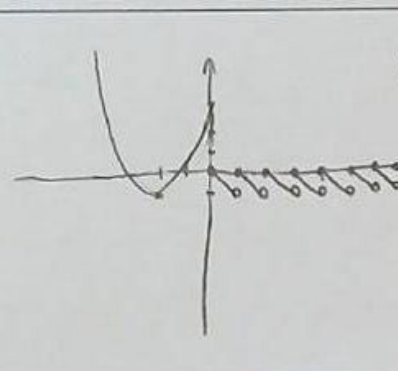
$$n = 1 \sim 4$$

هر یک مقدار ۲ ✓
 $n = 2$
 $(1, 3)$

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



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

$y = \frac{n^r + 2n + m}{n+1} \quad R_f = \mathbb{R}$ $y(n+1) = n^r + 2n + m \Rightarrow n^r + (2-y)/n + (n-y) = 1 \leadsto b^r - f_{ac} \Rightarrow$ $(2-y)^r - f(n-y) = y^r + 2\Delta - 10y - 4m + 4y - y^r - 4y + 2\Delta 2m \Rightarrow$ $10y - (4\Delta - 4m) \times 4 = 10y - 16\Delta + 16m = 16m - 4\Delta 50 \rightarrow m \leq 50 \quad \boxed{m \neq f} \quad \boxed{m \leq 50}$ $\boxed{1, 2, 3} \quad \text{طبیعی} \quad \checkmark$	(۲) ۶
$f(n) = \begin{cases} n+r & ; n > r \\ n^r - 2m + r & ; 0 \leq n \leq r \\ n + r & ; n < 0 \end{cases}$  $R_f: [1, +\infty) \quad \checkmark$	(۲) ۷
$f(n) = \begin{cases} n^r + 2n + m & ; n \leq 0 \\ [2n] - 2m & ; n > 0 \end{cases}$  $R_f: [1, +\infty) \quad \checkmark$	(۲) ۸
$y = a + 1 - \sqrt{2n+r} \quad D_f: [b, +\infty), R_f = (-\infty, d]$ $2n+r \geq 0 \Rightarrow n \geq -\frac{r}{2} \Rightarrow b = -\frac{r}{2} \quad n = -\frac{r}{2} \Rightarrow y = a + 1 - 0 = a + 1$ $d = a + 1 \rightarrow \boxed{a = r} \quad \checkmark \quad b = -\frac{r}{2} \quad \checkmark$ $a \times b = r \times -\frac{r}{2} = \boxed{-\frac{r}{2}} \quad \checkmark$	(۲) ۹
$f(n) = \sqrt{2n+1} + \sqrt{1-n} \leadsto -\frac{1}{2}n \leq 1$ $g(n) = \sqrt{2+2\sqrt{1-n^2}} - \sqrt{2n+1} - \sqrt{1-n}$... پاسی نه	۵ ۱۰