

نام و نام خانوادگی: پاسخنمه تشریحی تکلیف شماره V کلاس: یا: B

17, 17, 17

$$\text{if } x = \lambda \begin{cases} g(x) = \sqrt{Vx} \\ f(x) = F \end{cases}$$

$$F + \sqrt{Vx} = a + b\sqrt{\lambda + c}$$

$$a = F, b = \sqrt{V}$$

$$\lambda + c = 0 \Rightarrow c = -\lambda$$

$$\frac{a+b}{c} = \frac{F+\sqrt{V}}{-\lambda} = -1$$

راه حل نهایی؟

15

$$x = \mu \rightarrow \frac{\mu + \mu}{F - \lambda + \mu} = \frac{F}{-1} = -F$$

$$x = 1 \rightarrow \frac{1 + \mu}{1 - F + \mu} = \frac{\mu}{0} = \text{تج}$$

$$x = \mu \rightarrow \frac{\mu + \mu}{9 - 1\mu + \mu} = \frac{\mu}{8} = \text{تج}$$

$$x = 0 \rightarrow \frac{\mu}{\mu}$$

$$f(x) = (\mu, -F), (0, \frac{\mu}{\mu})$$

$$g(x) = (\mu, -\frac{1}{F}), (0, \frac{1}{F})$$

$$f(x)$$

2

$$\text{الف) } (\frac{1}{\mu}, \mu), (\frac{\mu}{\mu}, -1), (\mu, \mu), (-\frac{1}{\mu}, \frac{1}{\mu})$$

$$\text{ب) } (1, \mu), (-1, \mu), (\sqrt{\mu}, 1), (\mu, \mu), (-\mu, \mu), (0, \frac{1}{\mu})$$

$$\text{ج) } (\mu, 19), (1, \mu), (\mu, 9), (-1, 1)$$

$$\text{د) } \mu f = (1, F), (\mu, -\mu), (F, F), (-1, \mu), \frac{\mu f}{9} = (1, -F), (\mu, -1), (\mu, 1), (\mu, \frac{1}{\mu})$$

3

تج

مسئله 4

$$\mu f = (\mu, \mu), (\mu, \mu), (F, 19), (-\mu, 0)$$

$$\mu f + g = (\mu, \omega), (\mu, \omega), (\mu, \omega), (-\mu, \frac{1}{\mu})$$

4

مسئله 3

$$x = -\mu \rightarrow \mu(\mu)^2 + 1 = 19 \quad (-\mu, 19)$$

$$x = 1 \rightarrow \mu(-1)^2 + 1 = \mu \quad (1, \mu)$$

$$x = \mu \rightarrow \mu(\mu)^2 + 1 = 9 \quad (\mu, 9)$$

$$x = -1 \rightarrow \mu(0)^2 + 1 = 1 \quad (-1, 1)$$

$$[x] + [-x] = \begin{cases} 0 & x \in \mathbb{Z} \\ -1 & x \notin \mathbb{Z} \end{cases}$$

پس $g(x) + 1 \neq 0$ فقط
زمانی که x صحیح
باشد.

$$\sqrt{x} - x \geq 0 \rightarrow 0 \leq x \leq 1$$

$$x = 0, 1$$

$$f(0) = f(1) = 0$$

$$(\frac{F}{g+1})x = 0 \quad x = 0, 1$$

$$f(x) \geq x \rightarrow f(x) \geq x' \rightarrow x' \leq x \rightarrow x \leq x' \rightarrow x \leq x'$$

15

5

$$f(x) = \frac{\sqrt{x^2 - x}}{x-2} \rightarrow D_f = [0, 2] \rightarrow D_f = \{0, 1, 2\}$$

$f(1) = \sqrt{0-1-F} = 0$ $f(\mu) = \sqrt{10-F-F} = \sqrt{\mu}$ $f(F) = \sqrt{10-19-F} = 0$ $f(0) = \sqrt{10-10-F} = 0$ $f(x) = (1,0), (\mu, \sqrt{\mu}), (F,0)$	$g(x) = (1,0), (\mu, \frac{\sqrt{\mu}}{\mu}), (F,0)$	6
الف) $y = (x-1)^3 + 1 \rightarrow$ $\sqrt[3]{y-1} = x-1$ $\sqrt[3]{y-1} + 1 = x$ $R_f = \mathbb{R} = (-\infty, +\infty)$	ب) $yx^3 - \mu xy - 1 = 0$ $x = \frac{\mu y \pm \sqrt{F_y^3 + F_y}}{\mu y}$ $F_y^3 + F_y \geq 0$ $F_y(y+1) \geq 0$ $R_f = (-\infty, -1] \cup [0, +\infty)$	7
الف) $x_s = -\frac{b}{\mu a} = -\frac{-F}{\mu} = \mu$ ب) $x_s = -\frac{b}{\mu a} = -\frac{9}{\mu} = \mu$ ج) $x_s = -\frac{b}{\mu a} = -\frac{-F}{\mu} = \mu$ د) $x_s = -\frac{9}{-\mu} = \mu$	$y_s \xrightarrow{\text{جائز}} 9, [9, +\infty)$ $y_s \xrightarrow{\text{جائز}} 1\mu, (-\infty, 1\mu]$ $y_s \xrightarrow{\text{جائز}} \sqrt{-V}, \sqrt{-V}, +\infty) = [9, +\infty)$ $y_s \xrightarrow{\text{جائز}} 9, \sqrt{9}, +\infty) = [9, +\infty)$	8
الف) $\mathbb{R}$ ب) $\mathbb{R}$ ج) $\sqrt{\mathbb{R}} = [0, +\infty)$ د) $[0, +\infty)$ زيارته الـ μ كفت		9
الف) $R_f = \mathbb{R} - \{3\}$ ب) $R_f = \mathbb{R} - \{4\}$		10

$$f(n) = \sqrt{x-r+r\sqrt{n-r}+r} = \sqrt{(\sqrt{n-r}+r)^2} = |\sqrt{n-r}+r| = \sqrt{n-r}+r \quad (1)$$

$$g(n) = \sqrt{x-r-r\sqrt{n-r}+r} = \sqrt{(\sqrt{n-r}-r)^2} = |\sqrt{n-r}-r| \xrightarrow{n \geq 1} \sqrt{n-r}-r$$

$$f(n)+g(n) = \sqrt{n-r}+r+\sqrt{n-r}-r = 2\sqrt{n-r} \xrightarrow{\begin{matrix} a=0 \\ b=r \\ c=-r \end{matrix}} \frac{a+b}{c} = \frac{r}{-r} = -\frac{1}{r}$$

$$f(n) = \frac{\sqrt{\sqrt{n}-n}}{n-r} \rightarrow \begin{cases} n \neq r \\ n \geq 0 \end{cases} \begin{cases} (\sqrt{n}) \\ \sqrt{n}-n \geq 0 \rightarrow n \geq n^2 \rightarrow 0 \leq n \leq 1 \end{cases} \rightarrow D_f = [0,1] - \{r\} \quad (2)$$

$$g(n)+1 \neq 0 \rightarrow g(n) \neq -1 \rightarrow [n] + [-n] \neq -1 \rightarrow n \in \mathbb{Z}$$

$$D_{\frac{f}{g+1}} = \left\{ D_f \cap D_g, g(n) \neq -1 \right\} = \left\{ 0, 1, r \right\}$$

$[0,1] - \{r\} \cap \mathbb{Z}$

$$(الف) \quad y = n^3 - r n^2 + r n - 1 + 1 = y = (n-1)^3 + 1 \quad (3)$$

$$y-1 = (n-1)^3 \rightarrow \sqrt[3]{y-1} = n-1 \rightarrow n = \sqrt[3]{y-1} + 1$$

$$R_f = \mathbb{R}$$

$$(ب) \quad y = \frac{1}{n^2 - r n} \rightarrow n^2 y - r n y = 1 \rightarrow n^2 y - r n y - 1 = 0$$

$$\xrightarrow{y \neq 0} n = \frac{r y \pm \sqrt{r^2 y^2 + 4y}}{2y} \rightarrow 4y(y+1) \geq 0 \rightarrow \frac{-1}{+} \frac{0}{-} \frac{0}{+}$$

$$\xrightarrow{y=0} 0=1 \quad x \text{ حقیقی وجود ندارد!} \rightarrow R_f = (-\infty, -1] \cup (0, +\infty)$$