

نام و نام خانوادگی: محمد میرروحانی پاسخنامه تشریحی تکلیف شماره ۳ کلاس: دوازدهم سیر
 نام و نام خانوادگی: محمد میرروحانی پاسخنامه تشریحی تکلیف شماره ۳ کلاس: دوازدهم سیر

۱. $\sqrt{f(x)-x+1}$ و $f(x) \rightarrow 2x-1$; $[x] \geq 1$ (۱.۵)

$f(x)-x+1 \geq 0$ $\rightarrow 2x-1-x+1 \geq 0 \rightarrow x \geq 0 \rightarrow x \geq 1$

$[x] \geq 1$ و $[x] \leq 1$ $\rightarrow x=1$ (صفحه اخذ)

۲. $\frac{2x^3+3x^2+11x+2}{(x^2+x+1)^2} = \frac{3(1x^2+12x^2+6x+1)}{(x^2+x+1)^2}$ (۲)

$\frac{2x^3+3x^2+11x+2}{(x^2+x+1)^2} = \frac{3(1x^2+12x^2+6x+1)}{(x^2+x+1)^2}$

۳. $\frac{3}{2x+1} \rightarrow 2x+1 \neq 0$ $\rightarrow 2x \neq -1 \rightarrow x \neq -0.5$ $\rightarrow D_f = \mathbb{R} - \{-0.5\}$

$f(x) = \frac{x^2+2x-1}{x^2-1}$; $x \neq \pm 1$

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

$\rightarrow x^2+2x-1 = x^2-1$ $\rightarrow 2x = 0$ $\rightarrow x = 0$

$f(x) = \frac{x+1}{x-1}$ $\rightarrow D_f = \mathbb{R} - \{1\}$ (۲)

$\frac{x+1}{x-1} = \frac{(x-1)(x+1)}{(x-1)(x+1)} = 1$ $\rightarrow f(x) = 1$

$\rightarrow x+1 = x-1$ $\rightarrow 2 = 0$ $\rightarrow$ هیچ جوابی نیست

$f(x) = (x-2)^2(x-1) / 2(x) = f(x+1) + f(1-x)$ (۲)

$2(x-2)^2(x-1) = 2(x) = f(x+1) + f(1-x)$

$2(x-2)^2(x-1) = 2(x) = f(x+1) + f(1-x)$

$$f(1-x) = \sqrt{x+1}; x < 0 \quad f(-1) + f(x) = ?$$

$$1-x = -1 \rightarrow -x = -2 \rightarrow x = 2 \rightarrow \sqrt{2} = \sqrt{2}$$

$$1-x = 2 \rightarrow -x = 1 \rightarrow x = -1 \rightarrow \sqrt{-1+1} = 0$$

$$f(x+\sqrt{x}) = x+3x \quad f(x) = ?$$

$$x = x + \sqrt{x} \rightarrow x = 0 \rightarrow x = 0$$

$$f(x) = x^3 + x \rightarrow f(x-1) + f(1-x) = ?$$

$$(x-1)^3 + (x-1) + (1-x)^3 + (1-x) = 0$$

$$f(x) = \sqrt{ax+1} \quad g(x) = \sqrt{b-x} + 2x$$

$$f \cap g = \{(1,1)\} \rightarrow D_f \cap D_g = \{1\}$$

$$ax+1 \geq 0 \rightarrow x \geq -\frac{1}{a} \rightarrow \frac{1}{a} \geq -\frac{1}{a} \rightarrow a \geq 0$$

$$b-x \geq 0 \rightarrow x \leq b \rightarrow b \geq 1$$

$$f(x) = \sqrt{m-x} + n \quad g(x) = \sqrt{x+1} \quad D_g = [-1, +\infty)$$

$$D_g \cap D_f = [-1, 1] \rightarrow D_f = (-\infty, 1] \rightarrow m-x \geq 0$$

$$f - g(x) = \sqrt{m-x} - \sqrt{x+1} \rightarrow m \geq x$$

$$\sqrt{m-x} + n = \sqrt{x+1} \rightarrow m = x$$

$$f(x) = \begin{cases} r_{n-1} & x \geq a \\ r_{n+r} & x < a \end{cases}$$

-1

$$\begin{cases} x \geq a \rightarrow y = \sqrt{r_{n-1} - x + 1} \rightarrow y = \sqrt{x} & x \geq 0 \xrightarrow{\cap} x \geq a \\ x < a \rightarrow y = \sqrt{r_{n+r} - x + 1} \rightarrow y = \sqrt{r_{n+r}} & x \geq -\frac{r}{r} \xrightarrow{\cap} -\frac{r}{r} \leq x \leq a \end{cases}$$

$$D_y = \left[-\frac{r}{r}, +\infty\right)$$