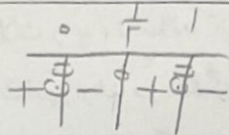


14/7/50

نام و نام خانوادگی: زهرا عربانی پاسخنامه تشریحی تکلیف شماره ۴ کلاس: ریاضی دوم (نصف اول)

ب) $\frac{x^2 - 2x + 1 - x^2}{x^2 - x} \geq 0$



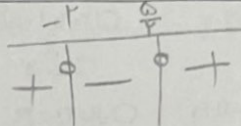
$D_f = (-\infty, 0) \cup [1, +\infty)$

ج) $x \neq -1$
 $x \neq 0$
 $x \neq 1$
 $x \neq -2$
 $x \neq -\frac{5}{2}$

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

$D_f = \mathbb{R} - \left\{-\frac{5}{2}, 0, -1, \pm 1\right\}$

د) $(x^2 - 9)(x^2 - 2x + 1) \geq 0$



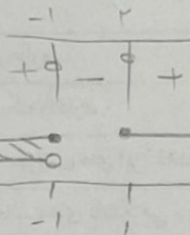
$D_f = (-\infty, -3] \cup [\frac{5}{2}, +\infty)$

ه) $(\sqrt{y-1})^2 = (-\sqrt{x-1} + 4)^2 \rightarrow \sqrt{x-1} - 4\sqrt{x-1} + 16 = y-1$

$y = \sqrt{x-1} - 4\sqrt{x-1} + 16 \Rightarrow x-1 \geq 0 \Rightarrow x \geq 1$

$D_f = [1, +\infty)$

$x^2 - x - 2 = (x-2)(x+1) \geq 0$

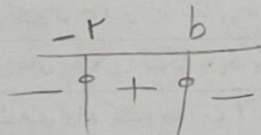


$\sqrt{x^2 - 1} \neq -1$

$x^2 - 1 \geq 0 \Rightarrow x \geq 1$
 $x \leq -1$

$D_f = (-\infty, -1) \cup (2, +\infty)$

$x^2 + ax - x^2 \geq 0$



$\rightarrow (x+2)(x+b) = -x^2 + ax + 2$

$D_f = [-2, b]$

$-x^2 + (b-2)x + 2b = -x^2 + ax + 2$

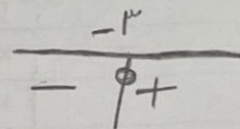
$b = \frac{2}{f}$

$a = -\frac{1}{f}$

$a + b = 1$

$f(x) \geq x$

$f(x) = \begin{cases} 2x-2 & x \geq 1 \\ 2x+2 & x < 1 \end{cases}$



$D_g = [-2, +\infty)$

$$rf(a) = r(a+1)(v) = 1fa + 1f$$

$$f(-r) = ra - r$$

$$1fa + 1f = \frac{ra}{ra} - r + \alpha$$

$$1 \cdot a = -1 \rightarrow \boxed{a = -1/1}$$

5

نقطة (2, 3) و (2, -3) على المحاور

$$\sqrt{r+\sqrt{r}} + \frac{1}{\sqrt{r+\sqrt{r}}} + r + \sqrt{r-\sqrt{r}} + \frac{1}{\sqrt{r-\sqrt{r}}} + r = r(\sqrt{r+\sqrt{r}} + \sqrt{r-\sqrt{r}}) + r$$

$$A = r + \sqrt{r} + r - \sqrt{r} + r\sqrt{1} = 9 \rightarrow A = \sqrt{9} \rightarrow \boxed{r\sqrt{9} + r}$$

$$\begin{aligned} x \rightarrow rf(n) - rf(-n) &= f(n^2 - n) \xrightarrow{r^2} rf(n) - 9f(-n) = 1n^2 - 1n \\ -n \rightarrow -rf(n) + rf(-n) &= f(n^2 + n) \xrightarrow{r^2} -9f(n) + 9f(-n) = 1n^2 + 1n \end{aligned} \quad \oplus$$

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

$$\boxed{f(n) = \frac{1n^2 + n}{-2}}$$

$$x=0 \rightarrow rf(0) = 1m - 1 \rightarrow \boxed{f(0) = \frac{1}{r}m - 1}$$

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$$x=-r \rightarrow f(1) = \frac{12+2m}{4} \quad \frac{12+2m}{4} = \frac{1m-1}{r} \quad m = \frac{4}{r}$$

$$f(1) = \frac{r0}{r}$$

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

$$\boxed{f(-1) = -9}$$

5

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

$$r = \sqrt{x-1} \quad \sqrt{y+1} \rightarrow x \leq 1r - D_4 = [1, 1r]$$