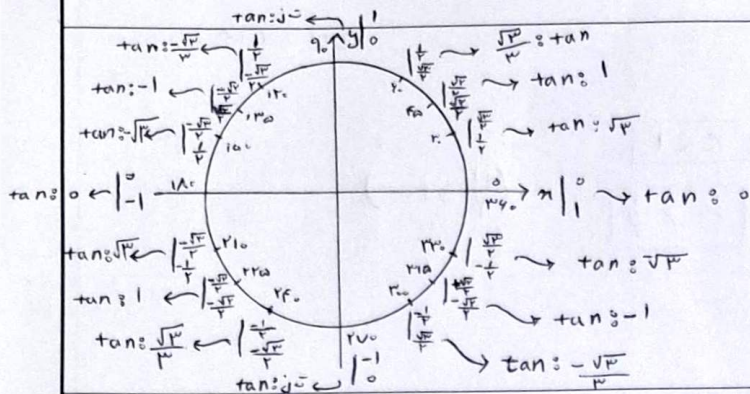


نام و نام خانوادگی پاسنامه تشریحی تکلیف شماره 2... کلاس یازدهم دبیرستان B.....



1

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

ب) $-\left(\frac{-\sqrt{3}}{r}\right) + \frac{\sqrt{3}}{r} = \frac{3 \times (-\sqrt{3})}{r} = a \times \frac{\sqrt{3}}{r} = \frac{a\sqrt{3}}{r}$

ج) $\sqrt{3} + r(\sqrt{3}) - r \times (-\sqrt{3}) = 6\sqrt{3}$

د) $\cos(0) + \sin\left(\frac{\pi}{2}\right) = 1 + 1 = 2$

2

$x^2 + fx = rx + a + r$

$a^2 + fa = ra + a + r$

$a^2 + a - r = 0$

$(a+r)(a-1) = 0$

$a = \cancel{r} \vee$

$f(1) = 1 + r = a$

3

$|x+1| \geq 2$

$x+1 \geq 2 \rightarrow x \geq 1$
 $x+1 \leq -2 \rightarrow x \leq -3$



$x = -3$

$\begin{cases} -1 \neq b = -3 \\ a + (-4) = -3 \\ a + b = 1 + 4 \end{cases}$

$a + b = 24$

4

الف) $\frac{1}{x^3 - fx^2}$
 $x^2(x-f) \neq 0$
 $x \neq f$

$D_y = \mathbb{R} - \{0, f\}$

5

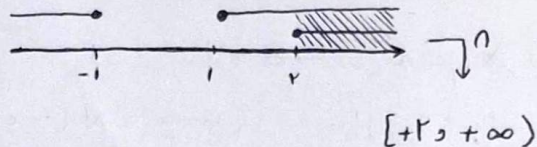
ب) $\frac{1}{r(x^3 + fx^2 + fx + f)}$
 $r(x^2 + 1) + f(x^2 + 1)$

فانتزی

$(x^2 + 1)(rx + f) \neq 0$
 $x^2 + 1 = 0$
 $x^2 = -1$

$D_y = \mathbb{R} - \{-1\}$

الف) $x^2 - 1 \geq 0$ و $x - 2 \geq 0$
 $x \geq 1$ و $x \geq 2$
 $\begin{cases} x \geq 1 \\ x \leq -1 \end{cases}$



6

ب) $4 - 3x \geq 0 \rightarrow 3x \leq 4 \rightarrow x \leq \frac{4}{3}$
 $4x - 3 > 0 \rightarrow 4x > 3 \rightarrow x > \frac{3}{4}$ $(\frac{3}{4}, +\infty)$

$4x - a = 0$
 $4x = a$

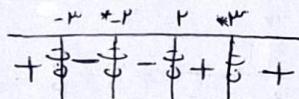
$b - 3x = 0$

$b = 3x$

$\frac{b}{a} = \frac{3x}{4x} = \frac{3}{4}$

7

الف) $\frac{(x-3)(x+2)}{x^2 - x - 4} \geq 0$
 $\frac{(x^2 - 9)(x+2)}{(x^2 - x - 4)} \geq 0$
 $\frac{(x+3)(x-3)(x+2)}{(x^2 - x - 4)} \geq 0$



$D_y = (-\infty, -3) \cup (-2, 1) \cup (3, +\infty)$

8

ب) $x^3 - 2x^2 - 5x + 4 \geq 0$

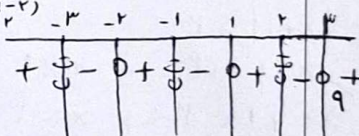
$x^3 - 2x^2 - 5x + 4 = 0$
 $x^2(x - 2) - 5x + 4 = 0$
 $x^2(x - 2) - 5x + 4 = 0$
 $x^2(x - 2) - 5x + 4 = 0$

$\frac{x^3 + 2x^2 - 5x - 4}{x^2 - x - 4} \geq 0$
 $\frac{x^3 + 2x^2 - 5x - 4}{x^2 - x - 4} \geq 0$
 $\frac{x^3 + 2x^2 - 5x - 4}{x^2 - x - 4} \geq 0$

$x^3 - 2x^2 - 5x + 4 = 0$
 $x^2(x - 2) - 5x + 4 = 0$
 $x^2(x - 2) - 5x + 4 = 0$

الف) $P[x] - 4 \geq 0$
 $2[x] \geq 4$
 $[x] \geq 2 \rightarrow (2, +\infty)$

$\frac{(x-1)(x^2+x-4)}{(x+1)(x^2+x-4)} \geq 0$
 $\frac{(x-1)(x^2+x-4)}{(x+1)(x^2+x-4)} \geq 0$

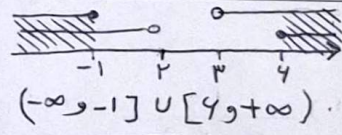


$D_y = (-\infty, -1) \cup [2, 3) \cup [4, +\infty)$

ب) $2[x] - 5 \geq 0$
 $2[x] \geq 5$
 $[x] \geq \frac{5}{2} = 2.5$
 $[x] \geq 3 \rightarrow (3, +\infty)$

الف) $\frac{x+1}{x-3} \geq 0$
 $\frac{x+1}{x-3} \geq 0$
 $\frac{x+1}{x-3} \geq 0$

$\frac{x^2 - 4}{x - 4} \geq 0$
 $\frac{(x+2)(x-2)}{x-4} \geq 0$
 $\frac{(x+2)(x-2)}{x-4} \geq 0$



$(-\infty, -1] \cup [4, +\infty)$

ب) $[x] - 4 \geq 0$
 $[x] \geq 4$
 $(4, +\infty)$

$2 - [x] \geq 0$
 $[x] \leq 2$
 $(-\infty, 2)$
 $D = \emptyset$

10