ارشیا ایزدی دهم تجربی B 14,25

-1

$1<x<3 \qquad (x-1)(x-3)=x^2-4x+3$ 2

$a=4 \qquad a+b=7$

$b=3$

-2

$y=((k-2)x+m-1)(x-3n)^2$

$-1-3n=0$

$\Rightarrow \left(n=-\frac{1}{3}\right)$ 2

x		-1		4	
P	$+$	0	$+$	0	$-$

$(k\in\mathbb{N}\to k-2<0\ (k=1))$

$-x+m-1 \xRightarrow{x=4} -4+m-1=0 \Rightarrow m=5$

$\frac{m}{n}+k=-15+1=-14$

-3

$-\frac{1}{2}x^2+2x+6>\frac{7}{2} \xRightarrow{\times 2} -x^2+4x+12>7$ 1,5

$\Rightarrow -x^2+4x+5>0 \Rightarrow (1-x)(x-5)>0 \Longrightarrow 1<x<5$

$b-a=5-1=4$

$\to (x-5)(x+1)<0 \to$ $\begin{array}{ccccc} & -1 & & 5 & \\ + & | & - & | & + \end{array}$ $\to \underbrace{-1}_{a}<x<\underbrace{5}_{b} \to b-a=5-(-1)=6$

-4

$f(x)=x^3-3x^2-x+3<0 \Rightarrow x^2(x-3)-(x-3)$

$\Rightarrow (x-3)(x+1)(x-1)$

$\Rightarrow (x>0)$ $\begin{array}{ccccccc} & -1 & & 1 & & 3 & \\ - & 0 & + & 0 & - & 0 & + \end{array}$ $\Rightarrow (a,b)=(1,3)$ 2

نقطه میانی $=2$

$f_2=8-12-2+3=\boxed{-3}$

-5 1,75

$(a-1)x^2+(a-1)x+1$

1 $\Rightarrow a<1$ (I)

همواره منفی $\Rightarrow \Delta<0 \qquad a-1<0$

2 $\Rightarrow a^2+1-2a-4a+4=a^2-6a+5<0$

$(a-1)(a-5)<0 \Rightarrow a\in(1,5)$ (II)

$(I)\cap(II)=\emptyset$

-6

$\frac{m(m^3+m)}{m-2} \Longrightarrow \frac{m^4+m^2}{m-2}$ → نامنفی 2

$m\neq 0$

$m-2>0 \Rightarrow m>2$

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$$\frac{(x^2-x-6)\,(x-1)^2}{(x^2+x+1)(2-x)^3} \le 0$$

-2		1 ☆		2		3	
$+$		$-$		$-$		$+$	$-$

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$$\frac{(x+2)(x-3)(x-1)^2}{(2-x)^3} \le 0 \qquad x = [-2,2) \cup [3,+\infty)$$

۸-

$$f(x) = \frac{3x^2-2x}{x^2+4} < 2 \qquad \frac{3x^2-2x-2x^2-8}{x^2+4} < 0$$

۲

$$\Longrightarrow \left(\frac{x^2-2x-8}{\underbrace{x^2+4}_{+}}\right) < 0 \qquad (x-4)(x+2) < 0$$

-2		4	
$+$	$-$		$+$

$$(-2 < x < 4) \qquad (a,b) \Rightarrow (-2,4) \qquad 4-(-2) = 6$$

۹-

$$-1 < \frac{3x^2-4x}{x+1} < 0 \qquad \frac{x(3x-4)}{x+1} < 0$$

-1		0		$\frac{4}{3}$	
$-$	$+$		$-$		$+$

$$0 < \frac{3x^2-4x+x+1}{x+1} \Longrightarrow \frac{\overbrace{3x^2-3x+1}^{\text{همواره } +}}{x+1} > 0$$

۲

$$x+1 > 0 \qquad x > -1$$

$$\overset{\cap}{\Longrightarrow} \left(0, \frac{4}{3}\right)$$

۱۰-

$$\frac{x^2-10}{x} \le 3 \qquad \frac{x^2-3x-10}{x} \le 0$$

$$\frac{(x+2)(x-5)}{x} \le 0$$

-2		0		5	
$-$	$+$		$-$		$+$

$$x = (-\infty,-2] \cup (0,5]$$

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