ارشیا ایزدی دهم تجربی B

-۱ $1 < x < 2 \quad (x-1)(x-2) = x^2 - 3x + 2$

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

$b = 3$

-۲ $y = ((k-2)x + m - 1)(x - 2x)^2$

$x \mid -1 \quad 4$

$P \mid + \phi + \phi -$

$-1 - 3x = 0$

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

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

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

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

-۳ $-\frac{1}{2}x^2 + 2x + 6 > \frac{7}{2} \overset{\times 2}{\Rightarrow} -x^2 + 4x + 12 > 7$

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

$b - a = 5 - 1 = 4$

-۴ $f(x) = x^3 - 3x^2 - x + 3 < 0 \Rightarrow x^2(x - 3) - (x - 3)$

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

$\Rightarrow (x > 0)$ $\quad -1 \quad 1 \quad 3$ $\quad - \phi + \phi - \phi +$ $\quad \Rightarrow (a, b) = (1, 3)$

نقطه‌ی میانی $= 2$

$f(2) = 8 - 12 - 2 + 3 = \boxed{-3}$

-۵ $(a-1)x^2 + (a-1)x + 1$

① $\Rightarrow a < 1$

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

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

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

-۶ $\frac{m(m^3 + m)}{m - 2} \Rightarrow \frac{m^4 + m^2}{m - 2}$ ← نامنفی

$m \neq 0$

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

-۷

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

-2	1	2	3
$+$	$-$	$-$	$+$

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

-۸

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

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

-2	4
$+$	$-$

$(x^2+4$ همیشه $+)$

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

-۹

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

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

$$0 < \frac{3x^2-4x+x+1}{x+1} \Rightarrow \frac{3x^2-3x+1}{x+1} > 0$$

($3x^2-3x+1$ همیشه $+$)

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

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

-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
$-$	$+$	$-$	$+$

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