نام و نام خانوادگی ...امیر محمدولی...... پاسخنامه تشریحی تکلیف شماره ۲۶... کلاس ...دهم ریاضی B......

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$x^2 - ax + b$

x		1		3	
	$+$	0	$-$	0	$+$

$$\begin{cases} S=4 \Rightarrow a=4 \\ P=3 \Rightarrow b=3 \end{cases} \Rightarrow \boxed{a+b=7}$$

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x		-1		4	
	$+$	0	$+$	0	$(-)$

$\downarrow$ $(x-3n)^2$ $\Rightarrow n = \frac{-1}{3}$

$(-)$ → a هم علامت (هم علامت $K-2$) $\Rightarrow K-2<0 \xrightarrow{K \text{ عددی طبیعی است}} K=1$

$-x+m-1 \xrightarrow[y=0]{x=4} -4+m-1=0 \Rightarrow m=5$

$$\frac{m}{n}+K = \frac{5}{\frac{-1}{3}}+1 = \boxed{-14}$$

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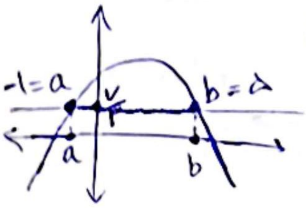
$y = \frac{-1}{2}x^2+2x+6$



$\frac{-1}{2}x^2+2x+6=\frac{7}{2} \to -x^2+4x+12=7 \to -x^2+4x+5=0$

$\to (x-5)(x+1)=0 \to x=5,\ x=-1$

$$b-a=5+1=\boxed{6}$$

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$x^3-3x^2-x+3=0 \xrightarrow[\text{بر } x-1 \text{ بخش پذیره}]{\text{جمع ضرایب صفر}} x^3-3x^2-x+3 \;\big|\; x-1$

$$\begin{array}{l|l} x^3-3x^2-x+3 & x-1 \\ \underline{x^3-x^2} & \overline{x^2-2x-3} \\ -2x^2-x & \\ \underline{-2x^2+2x} & \\ -3x+3 & \\ \underline{-3x+3} & \\ 0 & \end{array}$$

$x^2-2x-3 \to (x-3)(x+1)$

$\to (x-1)(x+1)(x-3)=0$

x		-1		1 (a)		2		3 (b)	
	$-$	0	$+$	0	$-$		$-$	0	$+$

$$\xrightarrow{x=2} y=8-3\times4-2+3=\boxed{-3}$$

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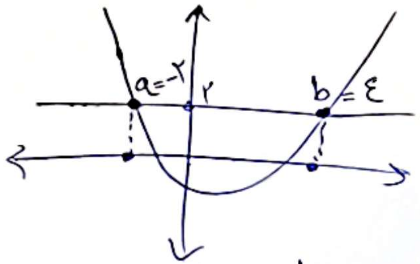
① $a-1<0 \to a<1$

② $\Delta<0 \to (a-1)^2-4(a-1)<0 \Rightarrow$

a		1		5	
y	$+$	0	$-$	0	$+$

$(1,5)$

$$① \cap ② \Rightarrow \boxed{D_a=\varnothing}$$

$\frac{m(m^3+m)}{m-2} > 0 \longrightarrow \frac{m^2(m^2+1)}{m-2} > 0 \Longrightarrow$ sign table: 0^{*}, 2: $- \circ -$ ⊕ $+$ $D_m = (2, \infty)$	۶
$\frac{(x-3)(x+2)(x-1)^3}{(x^2+x+1)(2-x)^2} \leq 0$ x^2+x+1: $\Delta < 0$; $(2-x)^2$: 2 sign table: -2, 1^{*}, 2, 3: $+ \circ - \circ -$ ⊕ $+ \circ -$ $[-2, 2) \cup [3, \infty)$	۷
 $\frac{3x^2-2x}{x^2+4} = 2 \longrightarrow \frac{3x^2-2x-2x^2-8}{x^2+4} = 0$ $\frac{x^2-2x-8}{x^2+4} = 0 \longrightarrow \frac{(x-4)(x+2)}{x^2+4} = 0$ $\Longrightarrow x = 4 , x = -2$ $b - a = 4 + 2 = 6$	۸
$-1 < \frac{3x^2-4x}{x+1} \Longrightarrow 0 < \frac{3x^2-4x+x+1}{x+1} \longrightarrow 0 < \frac{3x^2-3x+1}{x+1} \longrightarrow$ sign table: -1: $-$ ⊕ $+$; $(-1, \infty)$ ① $\frac{3x^2-4x}{x+1} < 0 \Longrightarrow \frac{x(3x-4)}{x+1} < 0 \longrightarrow$ sign table: -1, 0, $\frac{4}{3}$: $-$ ⊕ $+ \circ - \circ +$ $(-\infty, -1) \cup (0, \frac{4}{3})$ ② ① $\cap$ ② $\longrightarrow (0, \frac{4}{3})$	۹
$\frac{x^2-10}{x} - 3 \leq 0 \rightarrow \frac{x^2-3x-10}{x} \leq 0 \longrightarrow \frac{(x-5)(x+2)}{x} \leq 0$ sign table: -2, 0, 5: $- \circ +$ ⊕ $- \circ +$ $D_f = (-\infty, -2] \cup (0, 5]$	۱۰