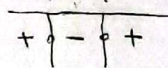
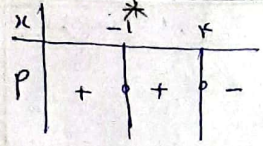


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$x^2 - ax + b$ ناقصی $\rightarrow [(-\infty, -1] \cup (2, +\infty)$ سببی $\rightarrow (1, 3)$
 $\begin{cases} 1 - a + b = 0 \\ 9 - 4a + b = 0 \end{cases} \rightarrow 1 - a + b = 9 - 4a + b \rightarrow 2a = 8 \rightarrow a = 4$
 $\begin{cases} 1 - a + b = 0 \\ 1 - 4 + b = 0 \end{cases} \rightarrow b = 3$
 $x^2 - 4x + 3$ جواب: $a + b = 4 + 3 = 7$

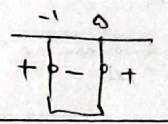


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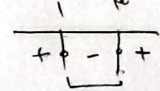
$y = \frac{(k-2)x + m - 1}{x - 2k} \rightarrow (k-2)k + m - 1 = 0 \rightarrow k - 1 + m - 1 = 0$
 $2k + m = 9 \rightarrow m = 9 - 2k$
 $y = \frac{(k-2)x + 9 - 2k - 1}{x - 2k} = \frac{(k-2)x + 8 - 2k}{x - 2k}$
 $\frac{m}{k} + k = \frac{9}{-2} + 1 = -\frac{1}{2}$
 $-1 - 2k = 0 \rightarrow 2k = -1 \rightarrow k = -\frac{1}{2}$
 $\frac{1}{k} = -2 \rightarrow -x + 2 = 0 \rightarrow x = 2$
 $m = 9 - 2k = 9 - 2(-\frac{1}{2}) = 10$

$y = \frac{-1}{x} x^2 + 2x + 9$ $(a > b) \rightarrow \frac{a}{b}$
 $\frac{-1}{x} x^2 + 2x + 9 > \frac{a}{b} \rightarrow \frac{-1}{x} x^2 + 2x + \frac{5}{x} > 0$
 $x^2 - 4x - 5 < 0 \rightarrow (x - 5)(x + 1) < 0$
 $\rightarrow x = 5 \rightarrow x = -1$



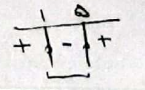
$(-1, 5)$
 $b - a = 5 + 1 = 6$ جواب

$f(x) = x^3 - 2x^2 - x + 3 \rightarrow 1 - 2 - 1 + 3 = 0$
 $(x-1)(x^2 - 2x - 3)$
 $\rightarrow x = 1 \checkmark \rightarrow (x-3)(x+1)$
 $\rightarrow x = 3 \checkmark \rightarrow x = -1$
 $(x-1)(x^2 - 2x - 3) < 0$
 $(a, b) = (1, 3)$
 $f(2) = 1 - 12 - 2 + 3 \rightarrow f(2) = -10$ جواب



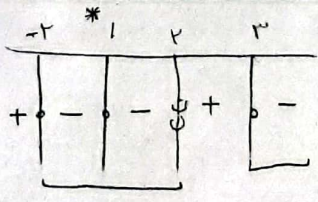
$\frac{x^3 - 2x^2 - x + 3}{x - 1} = \frac{(x-1)(x^2 - 2x - 3)}{x - 1} = x^2 - 2x - 3$
 $\frac{-2x^2 - x}{x - 1} = -2x - 3$
 $\frac{-3x + 3}{x - 1} = -3$
 $\frac{-(-3x + 3)}{x - 1} = 3$

$(a-1)x^2 + (a-1)x + 1$
 $a^2 - 2a + 1 - 4a + 4 < 0 \rightarrow a^2 - 6a + 5 < 0 \rightarrow (a-1)(a-5) < 0$
 $\rightarrow a = 1 \rightarrow a = 5$
 $a \in (1, 5)$ جواب



$\frac{m(m^2 + m)}{m - 2} > 0 \rightarrow \frac{m \cdot m(m+1)}{m - 2} > 0 \rightarrow \frac{m^2(m+1)}{m - 2} > 0$
 $m \in (2, +\infty)$ جواب

$\frac{(x-3)(x+2)}{(x^2 - x - 4)(x-1)}$
 $\frac{(x^2 + x + 1)(x - x)^2}{(x^2 - x - 4)(x - 1)}$
 $\Delta = 1 - 4 = -3$
 $\Delta < 0$
 بین همواره مثبت



$[-2, 2) \cup [4, +\infty)$

نام و نام خانوادگی: آلا ساه پیر

پایگاه نشریاتی لند شماره: ۲۶

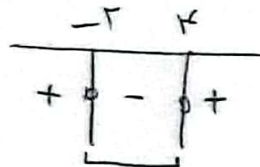
کلاس: نهم دفتر

$$f(x) = \frac{3x^2 - 2x}{x^2 + 1}$$

$$(x - 2)(x + 1) < 0$$

$\hookrightarrow x = 2 \quad \hookrightarrow x = -1$

$$y = 2$$



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

$$(-2, 6) = (a, b) \rightarrow b - a = 6 + 2 = 8 \text{ جواب}$$



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

صورت به صورت است.

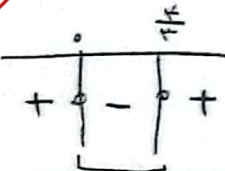
$$\rightarrow -1 < \frac{3x^2 - 4x}{x + 1} \rightarrow -x - 1 < 3x^2 - 4x \rightarrow 3x^2 - 4x + 1 > 0$$

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

$\hookrightarrow x = 0 \quad \hookrightarrow x = \frac{4}{3}$

$$\Delta = 9 - 12 = -3 \rightarrow \Delta < 0$$

دیس همواره برقرار است.



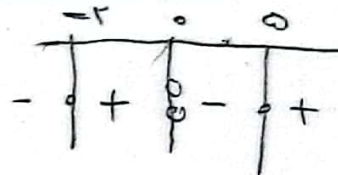
$$\text{جواب } \left(0, \frac{4}{3}\right)$$

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$$\frac{x^2 - 10}{x} \leq 2 \rightarrow \frac{x^2 - 10 - 2x}{x} \leq 0 \rightarrow (x - 5)(x + 2)$$

$\hookrightarrow x = 5 \quad \hookrightarrow x = -2$

$\hookrightarrow x = 0$



$$\text{جواب } (-\infty, -2] \cup (0, 5]$$

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