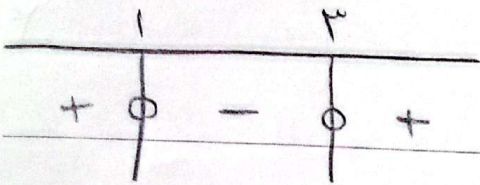


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* آلاء جعفری - تلفی ۲۹ ابرم - دهم بفر



$$x=1 \rightarrow 1 - a + b = 1$$

$$-a + b = 0$$

$$\Rightarrow a - b = 1$$

$$x=2 \rightarrow 4 - 2a + b = 9$$

$$2a - b = 9$$

$$-(a - b = 1)$$

$$\leftarrow 2a - b = 9$$

$$2a = 10 \rightarrow a = 5, b = 4 \Rightarrow a + b = 9$$

$$\Rightarrow -1 = \sum_{n=1}^{\infty} (-1 - 2n)^r \Rightarrow (-1 - 2n)^r \rightarrow (2n+1)^r, 4n^r + 1 + 2n = 0$$

$$2n = -1$$

$$n = \frac{-1}{2}$$

$$\rightarrow x = k \rightarrow k(k-2) + m - 1 = k^2 - 2k + m - 1 = k^2 + m - 9 = 0$$

$$k = 1$$

$$m = 8$$

$$n = \frac{-1}{2}$$

$$\leftarrow \checkmark k = 1 \Rightarrow k^2 + m = 9$$

$$k = 2 \rightarrow m = 5$$

$$k = 2 \rightarrow \frac{m}{n} + k = -2 + 2 = 0$$

$$n = -\frac{1}{2}$$

$$(-1)$$

$$\frac{m}{n} + k = \frac{8}{-\frac{1}{2}} + 1 = -16 + 1 = -15$$

$$\rightarrow -\frac{1}{2}x^2 + 2x + 9 > \frac{1}{2} \rightarrow -\frac{1}{2}x^2 + 2x + \frac{9}{2} > \frac{1}{2} \rightarrow -\frac{1}{2}x^2 + 2x + \frac{8}{2} = 0$$

$$\frac{x(-2)}{2} x^2 - 2x - 8 = 0 \rightarrow (x - 4)(x + 2) = 0 \rightarrow x = 4, -2$$

$$\rightarrow a = -1, b = 4 \rightarrow b - a = 5$$

| | | | | |
|--------------------------------------|--|----|---|---|
| x | | -1 | 4 | |
| $-\frac{1}{2}x^2 + 2x + \frac{8}{2}$ | | - | + | - |

$$\rightarrow x^2(x-3) - (x-3) \geq 0 \rightarrow (x-3)(x^2-1) \geq 0 \rightarrow (x-3)(x-1)(x+1) \geq 0$$

$$\rightarrow \begin{array}{c} -1 \quad 1 \quad 3 \\ | \quad | \quad | \\ - \quad + \quad - \quad + \end{array} \rightarrow (1, 3) \cup (-\infty, -1) \rightarrow \begin{cases} (-\infty, -1) \cap (0, +\infty) = \emptyset \\ (1, 3) \cap (0, +\infty) = (1, 3) \end{cases}$$

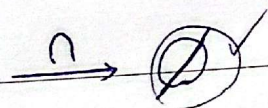
$$f(x) = x^3 - (3x^2) - x + 3 = (-3) \leftarrow \text{نقطهٔ سبانی} = 2$$

$$(a-1)x^2 + (a-1)x + 1 < 0 \Rightarrow b^2 - 4ac < 0 \rightarrow (a-1)^2 - 4(a-1) < 0 \quad -\Delta$$

$$a-1 < 0 \rightarrow a < 1$$

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

$$1 < a < 5 \quad \leftarrow \begin{array}{c} 1 \quad 5 \\ | \quad | \\ + \quad - \quad + \end{array}$$

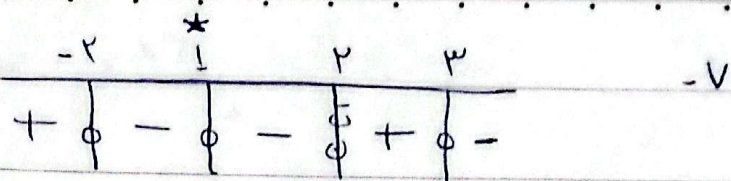


صفر می‌کنند. $m=2$ \leftarrow صورت کسری مثبت

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

صفر می‌کنند. $m=2$ \leftarrow $m < 2$ \leftarrow مخرج کسری منفی

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

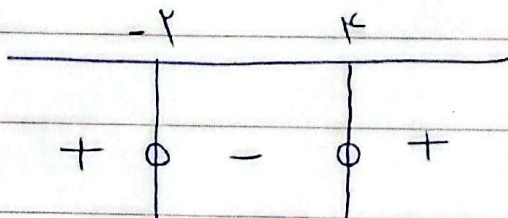


همواره مثبت

$$\Rightarrow x = [-2, 2) \cup [3, +\infty)$$

$$\rightarrow \frac{x^2 - 2x}{x^2 + 4} < 0 \rightarrow \frac{x^2 - 2x - 2(x^2 + 4)}{x^2 + 4} < 0 \rightarrow \frac{-x^2 - 2x - 8}{x^2 + 4} < 0$$

$$\rightarrow \frac{x^2 - 2x - 8}{x^2 + 4} < 0 \rightarrow \frac{(x-4)(x+2)}{x^2 + 4} < 0$$



همواره مثبت

$$\Rightarrow x = (-2, 4)$$

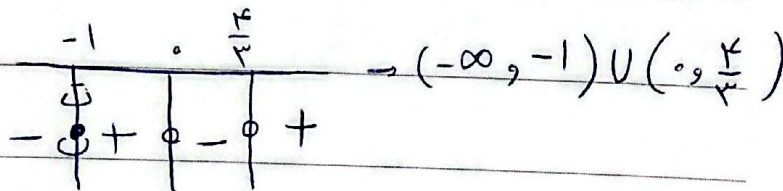
$$\begin{aligned} a &= -2 \\ b &= 4 \\ \Rightarrow b - a &= 4 + 2 = 6 \end{aligned}$$

$$\left\{ \begin{aligned} -1 < \frac{x^2 - 2x}{x+1} < \frac{x^2 - 4x + 1}{x+1} < \frac{x^2 - 4x + x + 1}{x+1} < \frac{x^2 - 3x + 1}{x+1} \end{aligned} \right.$$

$$\Rightarrow (-1, +\infty)$$

همواره مثبت
که -1 و -1
تاریک می کند
که سفید می کند

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



$$\rightarrow (-\infty, -1) \cup (0, \frac{4}{3})$$

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

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Sa Su Mo Tu We Th Fr

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

