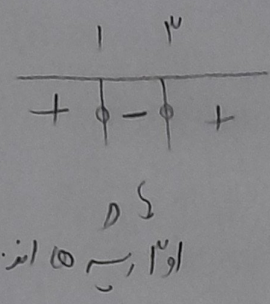


۱۸۱۵



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

\downarrow \downarrow
 a b

$$a+b = 4+3 = 7$$

۵

۱

$$(x-3n) = (x+1) \rightarrow -3n = 1 \rightarrow n = \left(-\frac{1}{3}\right)$$

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

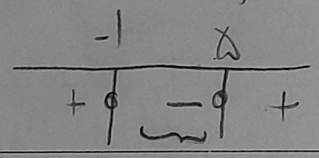
$$k < 2 \rightarrow k = 1, m = 5 \rightarrow \frac{5}{1} = 5 + 1 = 6$$

۵

۲

$$-\frac{1}{2}x^2 + 2x + 4 - \frac{1}{4} > 0 \rightarrow x^2 - 4x - 5 < 0$$

$$(x-5)(x+1) < 0$$



$$a, b \text{ بین } -1 \text{ و } 5 \rightarrow 5 - (-1) = 6$$

۵

۳

- $(0, 3)$ دوری از آن او ۳
- $(1, 0)$ هستی. او ۳
- $(3, 0)$

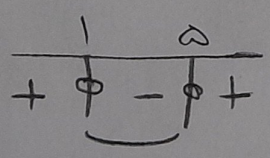
$$a = 1, b = 3$$

جمع ضربات $\leftarrow 0$ به یک از آن او ۳
 x برابر است $\leftarrow 3 = 0$
 نقطه میانی بازه $\leftarrow 2 = 3$

۴

$$\Delta < 0 \rightarrow b^2 - 4ac = a^2 + 1 - 2a - 4a + 4 = a^2 + 5 - 4a < 0$$

$$(a-1)(a-5) < 0$$



$$a - 1 < 0 \text{ و } a < 5$$

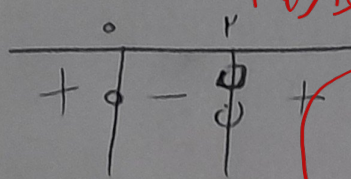
$$a \neq 1 \text{ و } a \neq 5$$

a هیچ مجموعه ای تحقق ندارد.

۵

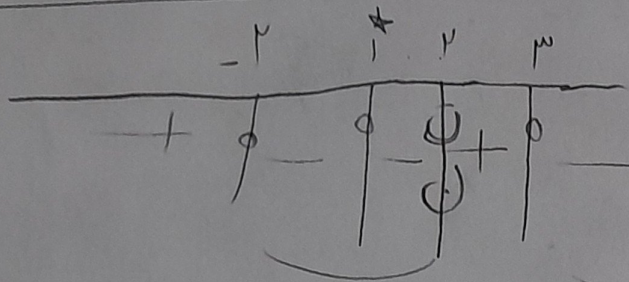
$$m - r \neq 0 \Rightarrow m \neq r \quad \frac{m(m^2 + m)}{m - r} \rightarrow \frac{m(m(m^2 + 1))}{m - r}$$

$$+ \text{or } \frac{m^2(m^2 + 1)}{m - r} \rightarrow + \text{or } \frac{m^2(m^2 + 1)}{m - r}$$



$$m \in (-\infty, 0) \cup (r, +\infty)$$

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



مرتبة = 3 و 1 و 3 و 2
مخرج = 2 و 2 و 2 و 2

$$[-2, 1) \cup [3, +\infty)$$

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

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

$\Delta = b^2 - 4ac = 4 - 4 = 0$

$$\frac{-b \pm \sqrt{\Delta}}{2a} = 1, -2 \Rightarrow \frac{-2}{+} \frac{4}{-} \Rightarrow (-2, 4) \rightarrow b - a = 4$$

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

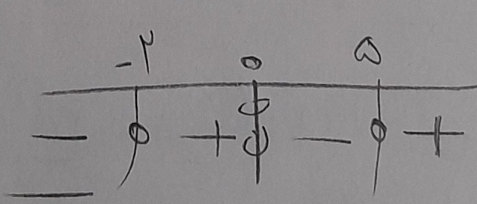
$$\frac{-1}{x + 1} \Rightarrow x \in (-1, +\infty)$$

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

$$\frac{-1}{x + 1} \Rightarrow (-\infty, -1) \cup (0, \frac{4}{3})$$

$$(-\infty, \frac{4}{3})$$

$$\frac{x^2 - 3x - 10}{x}$$



$$\frac{-b \pm \sqrt{\Delta}}{2a} = (5, -2)$$

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