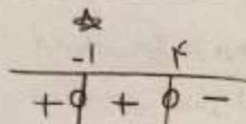


$(n-1)(n-2) = x^2 - 3x + 2$ $a+b = 2+1 = 3$

1



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

2

$((1-x)x+m-1) \xrightarrow{x=0} -k+m-1=0 \Rightarrow m=k$

$\frac{-\frac{1}{2}}{-\frac{1}{2}} + 1 = -|-\frac{1}{2} + 1| = -\frac{1}{2}$

3

$-\frac{1}{x}x^2 + 2x + 4 > \frac{1}{x} \xrightarrow{x^2} -x^2 + 2x + 4 > 1 \rightarrow -x^2 + 2x + 3 > 0 \rightarrow x^2 - 2x - 3 < 0$
 $(x-3)(x+1) < 0$
 $(a,b) \rightarrow (-1, 3) \Rightarrow 3 - (-1) = 4$

4

$x^2 - 2x + 3 - 1x^2 = x(2-x) + 3(1-x) = (2-x)(x-3)$
 $x=2 \Rightarrow 1-2+3-12 = -10$
 $(a,b) = (1, 3)$

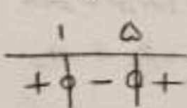
5

$(a-1)x^2 + (a-1)x + 1$

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

6

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



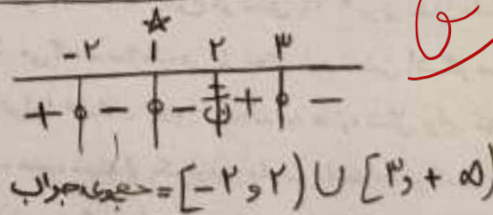
$1 < a < 5$

$\Rightarrow \emptyset$

$\frac{m(m^2+m)}{m-2} > 0 \Rightarrow \frac{m^2(m+1)}{m-2} > 0$
 $m > 2$

7

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

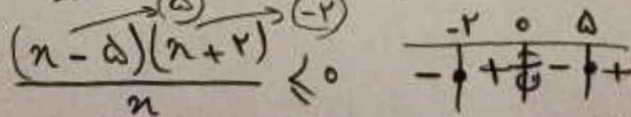


8

$\frac{3x^2 - 2x}{2x^2 + k} < 2 \Rightarrow 3x^2 - 2x < 2(2x^2 + k) \Rightarrow x^2 - 2x - 4 < 0$
 $(x-4)(x+2) < 0 \Rightarrow (-2, 4)$

9

$\frac{x^2 - 10 - 4}{x} < 0 \Rightarrow \frac{x^2 - 14}{x} < 0$



$x \in (-\infty, -2] \cup (0, 14]$

$\frac{x(3x-4)}{x+1} < 0 \Rightarrow \frac{-4}{x+1} < 0$

