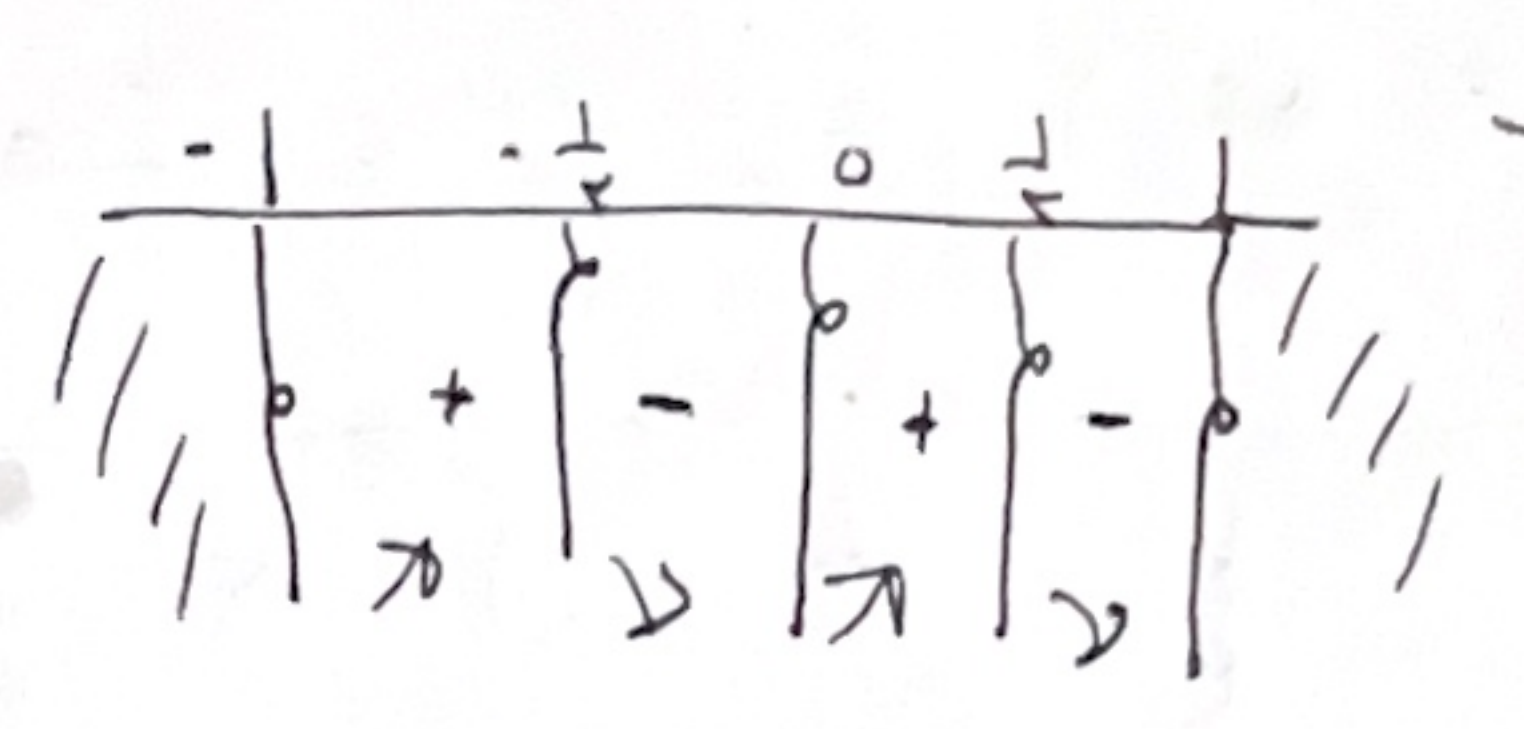


$D_f: [-1, 1]$

	0	
y	$\sqrt{n^2+n}$	$\sqrt{-n^2+n}$
y'	$\frac{2n+1}{2\sqrt{n^2+n}}$	$\frac{-2n+1}{2\sqrt{-n^2+n}}$



$\Rightarrow k = \omega$  و  $n = \omega$  و  $m = 2 \Rightarrow 2 + 2 - 1 = 1$

$f'(n) = \frac{1}{2\sqrt{n}} + \frac{-2}{2\sqrt{a-2n}} \Rightarrow \frac{\sqrt{a-2n} - 2\sqrt{n}}{2\sqrt{-2n^2+an}} = 0 \Rightarrow \sqrt{a-2n} = 2\sqrt{n}$

$\Rightarrow a-2n = 4n \Rightarrow \frac{a}{4} = n$  و  $n_{\min} = \frac{a}{4}$  و  $n_{\max} = \frac{a}{2}$

$f(\frac{a}{4}) = \sqrt{\frac{a}{4}} + \sqrt{\frac{3}{4}a}$  و  $f(\frac{a}{2}) = \sqrt{\frac{a}{2}}$

$\Rightarrow \frac{a}{\sqrt{2}} + \frac{a}{\sqrt{2}} = \sqrt{2} \Rightarrow a = \frac{12\sqrt{2}}{\sqrt{2} + \sqrt{2}} \Rightarrow a = 6 \Rightarrow [a] = 6$

ریشه های تابع: 0 و 2 و 4. اطراف نقاط 2 و 4 تابع مثبت و 0 بین منفی. اطراف 0 تابع منفی و تا 2 تابع مثبت و 2 تا 4 تابع منفی.

$f'(n) = 3an^2 + 2bn + c = 0$

$f(0) = c = 0$  و  $f'(1) = 3a + 2b = 0$  و  $f(1) = a + b = 1 \Rightarrow a = -2$  و  $b = 3 \Rightarrow ab = -6$

	-1, 0	$\sqrt{3}$
y	$-n^3 + 3n$	
y'	$-3n^2 + 3$	



میان مطلق:  $[-1, 1]$

$-n^3 + 3an^2 + bn$   $n < 0 \Rightarrow f'(\frac{1}{2}) = -\frac{3}{8} + 4a = 0 \Rightarrow f(-1) = -1 - 2a = 0 \Rightarrow a = -\frac{1}{2}$

$f(1) = 1 - \frac{1}{2} + b = 1 \Rightarrow b = \frac{3}{2}$

$\frac{b}{a} = \frac{\frac{3}{2}}{-\frac{1}{2}} = -3$

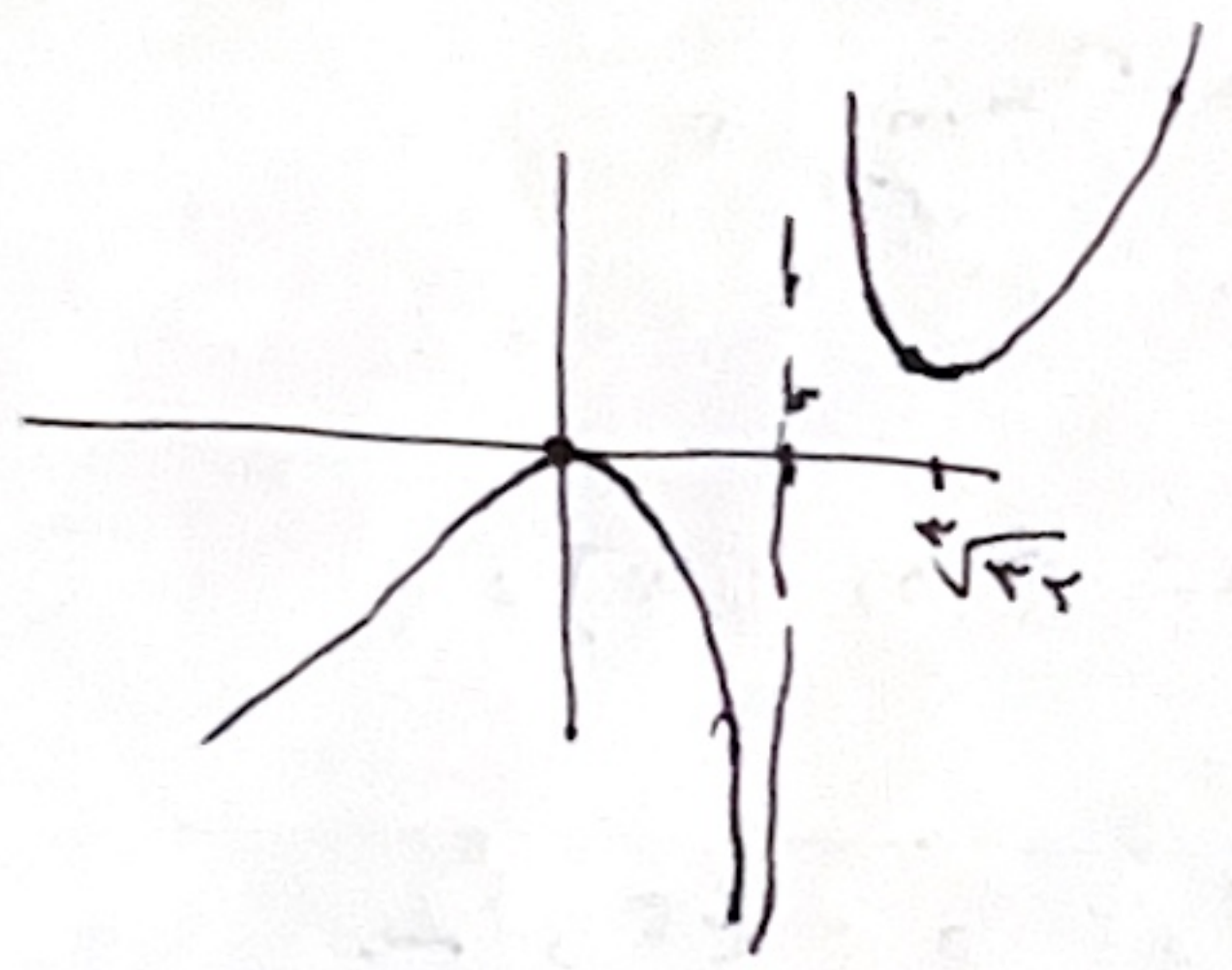
$$f'(x) = 3x + 1 \Rightarrow x_{\min} = -\frac{1}{3} \text{ و } (a+1)x = 1-a \Rightarrow x = \frac{1-a}{a+1} = -\frac{1}{3}$$

$$\Rightarrow a = 2 \Rightarrow y = \frac{2x+2}{3x+1} = 0 \Rightarrow x = -\frac{2}{3}$$

$$\frac{b}{a} = 3 \Rightarrow b = 12 \text{ , } \frac{1}{4} - \frac{9}{2} + 1 = 0 \Rightarrow a = 2$$

$$\frac{b}{a} = 3$$

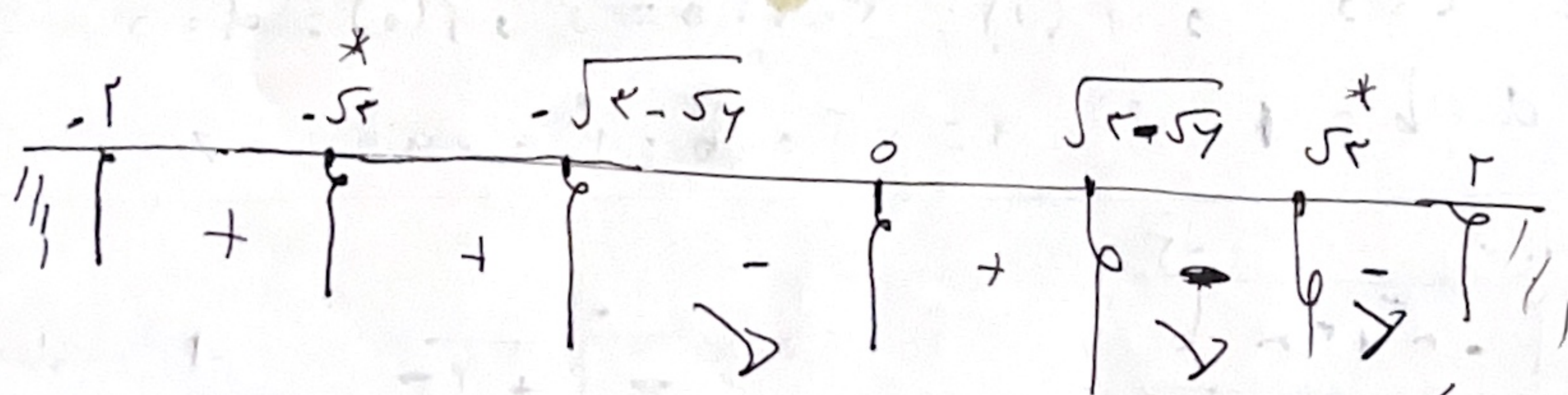
$$f(x) = \frac{x^2 - 3x + 2}{(x-1)^2} \Rightarrow$$



کدیکترین بازه ای که ا فزودی:  $[\frac{2}{3}, 2]$   
 $(1 - \sqrt{3})^2 \Rightarrow 2 - 2\sqrt{3} + 3 = 4 - 2\sqrt{3}$

$$f'(x) = \frac{2x(x^2 - 4x + 3)}{(x-1)^2} \quad \text{ریشه ها: } 0 \text{ و } \pm\sqrt{3} \text{ و } \pm\sqrt{3} \pm \sqrt{3}$$

در بازه  $[-2, 2]$ :



بازه ای که ا فزودی