

17, 2a

$$f(x) = 1 - \frac{a}{x} \quad [6 \mu], \quad f(c) = 1 - a$$

$$f(\mu) = 1 - \frac{a}{\mu} \quad \frac{f(b) - f(a)}{b-a} \rightarrow -1$$

$$\rightarrow 1 - \frac{a}{\mu} = 1 + a$$

$$\frac{1 - \frac{a}{\mu}}{\mu} = \frac{\frac{\mu - a}{\mu}}{\mu} = \frac{\mu - a}{\mu^2} = \frac{a}{\mu}$$

$\begin{cases} x = -\sqrt{\mu} \quad \times \\ x = \sqrt{\mu} \quad \checkmark \end{cases}$

Stückzahl $\rightarrow 1 - \frac{a}{n} \xrightarrow{\text{Stückzahl}} + \frac{a}{n\mu} = \frac{a}{\mu} \rightarrow n^2 = \mu, n = \pm\sqrt{\mu}$

$$y = \mu n^2 - \omega n + \lambda a = x \xrightarrow{\text{Stückzahl}} \epsilon a n - \omega = 1 \rightarrow \epsilon a n = 4 \rightarrow n = \frac{\mu}{\lambda a}$$

μ Stückzahl $y = x$

$$n = \frac{\mu}{\lambda a} \rightarrow \frac{\mu}{\lambda a} \left(\frac{\mu}{\lambda a} \right)^2 - \omega \left(\frac{\mu}{\lambda a} \right) + \lambda a = \frac{\mu}{\lambda a} \rightarrow \frac{9}{\lambda a} - \frac{\omega}{\lambda a} + \lambda a = \frac{\mu}{\lambda a}$$

$$\rightarrow \frac{9}{\lambda a} = \omega \rightarrow \mu \omega a^2 = 9 \rightarrow a^2 = \frac{1}{\epsilon} \Rightarrow a = \pm \frac{1}{\mu} \rightarrow \frac{1}{\mu} \text{ Stückzahl}$$

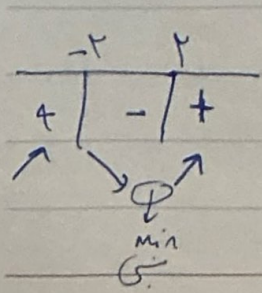
$-\frac{1}{\mu} \checkmark$

$$y = n^2 + a n^2 - \mu b n - \epsilon \xrightarrow{\text{Stückzahl}} \mu n^2 + \mu a n - \mu b = 0 \xrightarrow{\text{Stückzahl}} b = 0$$

$$\rightarrow \mu n^2 + \mu a n = 0 \rightarrow n (\mu n + \mu a) = 0 \rightarrow \mu a - 4 = 0 \rightarrow a = \mu$$

$$y = n^2 + \mu n^2 - \epsilon \xrightarrow{\text{Stückzahl}} \text{Lagrange} = \sqrt{14 + \epsilon} = \sqrt{\mu_0} = \mu \sqrt{0}$$

$$y = n^2 - \mu n + \mu \xrightarrow{\text{Stückzahl}} \mu n^2 - \mu = 0 \rightarrow n^2 = \epsilon \rightarrow n = \pm \mu$$



$$n = \mu, 1 - \mu \epsilon + \mu = -1 \epsilon \checkmark$$



Subject:

Date:

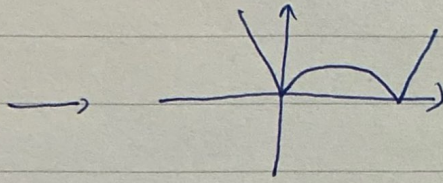
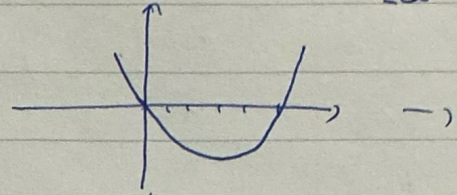
No:

$$f(u) = |u^p - a|$$

$$y = |f(u)| \Rightarrow y = |u^p - a|$$

$$u^p - a$$

-a



$$u^p - a$$

$$(u^p - a)$$

جیبی

m = Max جیبی

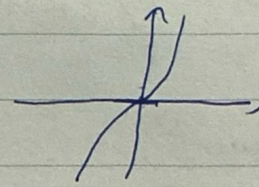
n = Min جیبی

$$\frac{n}{m} = \left(\frac{p}{1}\right) \checkmark$$

$$y = |f(u)| \longrightarrow f(u) = u(|u| + p)$$

-4

0	0
$-u^p + p$	$u^p + p$
↓	↓
$-p$	p
$u = \frac{p}{p}$	$u = \frac{p}{p}$
0 0 0	0 0 0



$$f'(0) = 0 \text{ --- نقطه یاراز ---}$$

(p)

$$f(u) = \sqrt[p]{u^p} |u - a| \xrightarrow{[0, \infty)} \text{ یا } \text{---}$$

-v

$$f'(u) = \frac{p}{p \sqrt[p]{u^{p-1}}} (a - u) + (-1) \sqrt[p]{u^p} = \frac{p}{\sqrt[p]{u^{p-1}}} (a - u) - \sqrt[p]{u^p} = 0$$

$$\frac{pa - pu}{\sqrt[p]{u^{p-1}}} = 0 \rightarrow pa - pu = pu \rightarrow am = pa \rightarrow a = \frac{am}{p}$$

$$[0, \infty) \rightarrow \sqrt[p]{u^p} \left| u - \frac{am}{p} \right| = \sqrt[p]{u^p} \left(\frac{pu}{p} \right) = \frac{pu}{p} \rightarrow \frac{pu}{p} = \frac{p}{p} \rightarrow$$

$$\sqrt[p]{u^p} = 1 \rightarrow u = \pm 1 \rightarrow a = \frac{am}{p} \rightarrow a = \pm \frac{am}{p} \checkmark$$

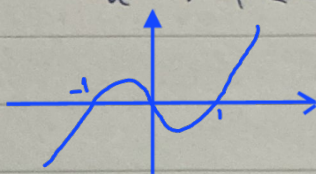
(p)

● dotnote

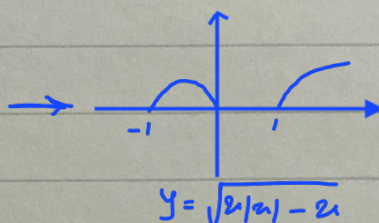
$$y = k|x-a-x \rightarrow \begin{cases} x^2 - 2x & x > 0 \quad (I) \\ -x^2 - 2x & x < 0 \quad (II) \end{cases}$$

$$f(x) = \sqrt{|x| - x} \rightarrow \begin{cases} x > 0, \sqrt{x^2 - 2x} \rightarrow x > 1 \quad (1) \\ x < 0, \sqrt{-x^2 - 2x} \rightarrow -1 \leq x \leq 0 \quad (2) \end{cases}$$

$$x^2 + 2x \leq 0 \rightarrow x(x+2) \leq 0$$

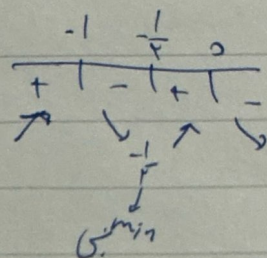


$$(1) y' = \frac{kx - 1}{\sqrt{x^2 - 2x}} = 0$$



$$\frac{kx + 1}{k - x} = \frac{1}{2}$$

$$(2) y' = \frac{-kx - 1}{\sqrt{-x^2 - 2x}} = 0$$



$$-1 > -\frac{1}{2} > 0, \text{ (min)} \quad k=2 \quad \text{max} \quad m=1 \quad \text{(min)} \quad n=0$$

$$\frac{kx + 1}{k - x} = \frac{2x + 1}{2 - x} = \frac{1}{2} = 1$$

$$k=2$$

$$f(x) = \frac{x}{1 - |x|} \rightarrow \frac{x}{1 - x^2} \rightarrow y' = \frac{(1 - x^2) + 2x^2}{(1 - x^2)^2} = 0$$

$$\rightarrow \frac{x^2 + 1}{(1 - x^2)^2} \rightarrow x = 1 \rightarrow \text{DNE}$$

1/5

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

یہ نقطہ کہیں

$$1 - x^2 + 2x^2 = 0 \rightarrow x^2 = -1 \rightarrow \text{DNE}$$

$$1 + x^2 - 2x^2 = 0 \rightarrow 1 - x^2 = 0 \rightarrow x = \pm 1 \rightarrow \text{DNE}$$

$$\rightarrow \begin{cases} x > 0, & x^2 = 1 \rightarrow x = 1 \checkmark \\ x < 0, & -x^2 = 1 \rightarrow x^2 = -1 \times \end{cases}$$

$$\rightarrow D_f = \mathbb{R} - \{1\}$$

ch

$$f'(m) < 0 \rightarrow ad - bc < 0 \rightarrow m^2 - m - 2 < 0 \rightarrow (m-2)(m+1) < 0 \rightarrow -1 < m < 2, m \neq 2 \rightarrow -1 < m < 2 \text{ (I)}$$

$$\text{ریشه } 2 \text{ خارج} = 2 = 1 - m < 1 \rightarrow m > 0 \text{ (II)}$$

$$(I) \wedge (II) \rightarrow m = 0, 1$$