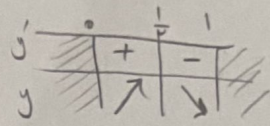


$$f(x) = \begin{cases} \sqrt{x-x^2} & x \geq 0 \\ \sqrt{x+x^2} & x < 0 \end{cases} \rightarrow f'(x) = \begin{cases} \sqrt{1-2x} & x \geq 0 \\ \sqrt{1+2x} & x < 0 \end{cases}$$

$Df = (-\infty, -1] \cup [0, 1]$



$m+n+k=a$  ✓

$m=1$   
 $n=0$   
 $x=1$   
 $\{0, \pm 1, \frac{1}{2}\}$

$f'(x) = \frac{1}{2\sqrt{x}} - \frac{1}{\sqrt{a-2x}} = 0 \rightarrow x = 0 \leq \frac{a}{4} \leq \frac{a}{4}$

$f(\frac{a}{4}) = \sqrt{\frac{a}{4}}$  min  
 $f(\frac{a}{4}) = \sqrt{\frac{a}{4}}$  max  
 $f(0) = \sqrt{a}$   
 $\sqrt{\frac{ca}{4}} \times \sqrt{\frac{a}{4}} = 12 \rightarrow a=4$   
 با  $a$  نسبت به  $\epsilon - \epsilon$  و  $\epsilon$

$\frac{x^2}{x^2-1} |x^2-\epsilon| \xrightarrow{+0\epsilon} \frac{x^\epsilon - \epsilon x^2}{x^2-1} \xrightarrow{0} \frac{(\epsilon x^\epsilon - 2x)(x^2-1) - 2x(x^\epsilon - \epsilon x^2)}{(x^2-1)^2} = 0$

$\rightarrow x=1$   
 $2x(x^\epsilon - 2x^2 + \epsilon)$   
 $\Delta < 0$   
 بهترین حالت  $\rightarrow -2, 0, 2$   
 بهترین حالت  $\rightarrow 2, 0, -2$

$kan^2 + rbn + c \xrightarrow{(0,0)} c=0$   
 $(1,0) \rightarrow ka + rbs = 0$   
 $an^2 + bn^2 + cn + d \xrightarrow{(0,0)} d=0$   
 $(1,1) \rightarrow a+b=1$   
 $\Rightarrow a = -r/b = 3 \rightarrow ab = -9$

$y = -x^2 + kan^2 + b \rightarrow y' = -2x + 2kan$   
 $(-1,0) \rightarrow -2 - 2kan = 0 \rightarrow a = -\frac{1}{k}$   
 $y = (-1,1) = 1 + ca + b = 1 \rightarrow b = \frac{1}{k}$   
 $\frac{1}{a} = -\frac{1}{b}$  ✓

$\min(-\frac{b}{ra}, -\frac{\Delta}{\Sigma a}) \rightarrow S(-\frac{1}{r}, \frac{r}{r})$

بجانبه لـ انفسه

$\frac{a}{a+c} = \frac{r}{r} \rightarrow a=r$

$\frac{rx+r}{rx+c} = \dots \rightarrow x = -\frac{c}{r}$

$f(x) = rx - x^2 \rightarrow f'(x) = r - 2x = 0 \rightarrow x = \pm 1$

|   |                     |     |            |
|---|---------------------|-----|------------|
|   | $-\frac{r}{r} = -1$ | $1$ | $\sqrt{r}$ |
| y | -                   | +   | -          |
| x | ↘                   | ↗   | ↘          |

$f(-\frac{r}{r}) = -\frac{a}{r}$   $f(-1) = -2$   $f(1) = r$   $f(\sqrt{a}) = \dots$

حد الدنيا

$A(-\frac{1}{r}, r)$

بجانبه لـ انفسه

$f(-\frac{1}{r})^2 + a(-\frac{1}{r}) + 1 = 0 \rightarrow -\frac{a}{r} = -2 \rightarrow a = 2$

$\frac{b}{\Sigma} = r \rightarrow b = r$

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

$f'(x) = \frac{(x^2 - a)(\Sigma x^2) - (rx^2)(x^2)}{(x^2 - a)^2} = \frac{x^2(x^2 - cr)}{(x^2 - a)^2} \leq 0$

$\leq 0 \rightarrow$

|   |     |     |            |
|---|-----|-----|------------|
|   | $0$ | $r$ | $\sqrt{a}$ |
| y | +   | -   | -          |
| x | ↗   | ↘   | ↘          |

$\sqrt{a} - r$

$f'(x) = \frac{\Sigma x^2(x^2 - r) - rx(x^2 - r)}{(x^2 - r)^2} = \frac{\Sigma x^4 - rx^2 - rx^4 + rx}{(x^2 - r)^2} = 0$

$= 0$

$-r - \sqrt{r} - \sqrt{r} - \sqrt{r} \quad \sqrt{r} \quad \sqrt{r} \quad \sqrt{r}$

|   |   |      |             |             |     |            |            |            |
|---|---|------|-------------|-------------|-----|------------|------------|------------|
|   |   | $-r$ | $-\sqrt{r}$ | $-\sqrt{r}$ | $0$ | $\sqrt{r}$ | $\sqrt{r}$ | $\sqrt{r}$ |
| y | / | -    | -           | +           | -   | +          | +          | /          |
| x | / | ↘    | ↘           | ↗           | ↘   | ↗          | ↗          | /          |

دسته به دسته الی آخر