

Sulijit

$$f(x) = \begin{cases} \sqrt{x-n^2} & n \neq 0 \\ \sqrt{x+n^2} & n \neq 0 \end{cases} \quad f'(x) = \begin{cases} \frac{1}{2\sqrt{x-n^2}} & n \neq 0 \\ \frac{1}{2\sqrt{x+n^2}} & n \neq 0 \end{cases}$$

$$f'(x) = \frac{1}{2\sqrt{x}} - \frac{1}{2\sqrt{x-n^2}} = 0 \quad n \begin{cases} \rightarrow a/r \\ \rightarrow a/r^2 \end{cases}$$

$$f(0) = \sqrt{n^2} \quad f\left(\frac{a}{r}\right) = \sqrt{\frac{a}{r}} \quad f\left(\frac{a}{r^2}\right) = \sqrt{\frac{a}{r}}$$

$$\sqrt{\frac{a}{r}} \sqrt{\frac{a}{r}} = a/r \quad a \neq r$$

$$f(x) = \frac{nx - kx^2}{x^2 - 1} \quad f'(x) = \frac{2x(n - 2kx^2 + k)}{(x^2 - 1)^2} = 0 \quad n = 0$$

old \rightarrow $\{ -r, 0, r \}$ $\rightarrow f(0) = 0$

$$y' = kax^2 + rbx + c \quad n = 0 \rightarrow C_{max}$$

$$y'' = 2ka + 2rbx + c = 0 \quad n < 1 \rightarrow ka + rbc < 0$$

$$\left. \begin{matrix} a + b < 1 \\ ka + rbc < 0 \end{matrix} \right\} \begin{matrix} a < r \\ b = r \end{matrix}$$

$$\frac{n < 0}{d < 0} \rightarrow n < 1 \rightarrow a + b < 1$$

$$-r < x < \sqrt{x} \rightarrow r - x^2 > 0$$

$$f(x) = rx - x^2$$

$$f'(x) = r - 2x = 0 \quad x = \frac{r}{2} \quad \begin{matrix} n = 1 \rightarrow f(x) = r \\ n < -1 \rightarrow f(x) = -r \rightarrow \text{min} \end{matrix}$$

$$y' = rx^2 + qa = 0 \quad n = -1 \rightarrow r - qa = 0 \quad a = \frac{r}{q}$$

$$y = x^2 + \frac{r}{q}x + b \rightarrow 1 + \frac{r}{q}a + b < 1 \quad \frac{r}{q} + b < 0 \quad b < -\frac{r}{q}$$

$$\frac{b}{a} < -\frac{r}{q}$$

$$y' = r(x+1) \quad r(x+1) < 0 \quad x = -1 \quad \frac{-a-1 + (a-r)}{r} = 0 \quad a = r$$

$$x < -1 \quad \text{min} \left| \frac{-1/r}{r/p} \right|$$

$$\frac{rx+r}{rx+1} = 0 \quad x = -\frac{r}{r}$$

Subject:

Year: Month: Day:

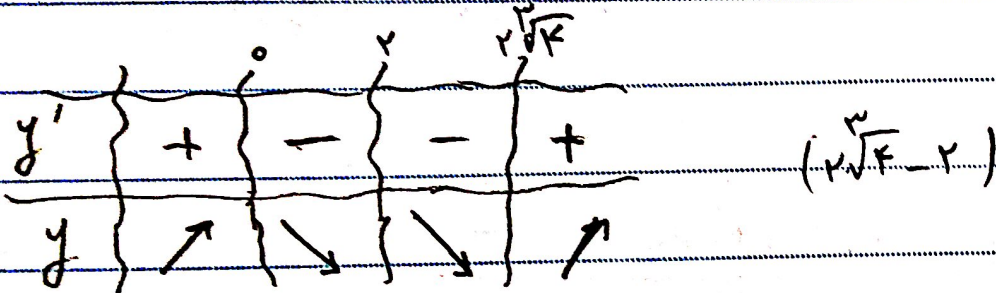
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$$y = \frac{bx^p + c}{kx^p + ax + 1}$$

A | $-1/x \rightarrow$ $\frac{b}{a}$ $\left(\frac{c}{a} \right)$
 $| x \rightarrow$ $\frac{b}{k}$ c/x b/x

$$k\left(\frac{-1}{x}\right)^p + a\left(\frac{-1}{x}\right) + 1 = 0 \quad a = k \quad \frac{b}{k} = c/x \quad b = kx$$

$$f'(x) = \frac{(x^p - 1)(kax^p) - (kax^p)(x^p)}{(x^p - 1)^2} = \frac{m^p(x^p - 1)^2}{(x^p - 1)^2}$$



$$f'(x) = \frac{x^p - 1}{x^p - 1} = \frac{kax^p(x^p - 1) - (kax^p)(x^p - 1)}{(x^p - 1)^2}$$