

Subject: باجنامه تشریحی تالیف

نام و نام خانوادگی: هاتفی

Date:

$$y^3 = 2ax^2 - 1 = y^3 = \sqrt{2ax^2 - 1} \quad \checkmark$$

①

$$y^3 + y = 2ax^2 - 1 \quad \checkmark \quad y = \frac{-1 + \sqrt{1 + 2ax^2 - 2}}{2} \quad \times$$

و) $y = ax^2 - 1 \quad \checkmark$ برای اعداد صحیح

②

1) $|y| + ay = ax^2 + 1$

$y \geq 0$

$$y + ay = ax^2 + 1$$

$$y = \frac{ax^2 + 1}{a + 1}$$

$y < 0$

$$-y + ay = ax^2 + 1$$

$$y = \frac{ax^2 + 1}{a - 1}$$

$\times$

2) $y^3 + ax^3 = 2ax - 1$

$$y^3 = 2ax - 1 - ax^3$$

$$y = \sqrt[3]{2ax - 1 - ax^3}$$

$$\sqrt[3]{y} + \sqrt[3]{ax} = 1$$

$$\sqrt[3]{y} = 1 - \sqrt[3]{ax} \quad \checkmark$$

$$y = (1 - \sqrt[3]{ax})^3$$

و) $\tan \frac{\pi}{4} = \frac{1}{1} = \sqrt{1}$

1) $\cot \frac{\pi}{4} = \frac{1}{1} = 1$

2) $\tan \frac{\pi}{4} = 1$

2) $\cot \frac{\pi}{4} = 1$

③

$$\sin \alpha = \frac{1}{2}$$

$$\alpha = \frac{\pi}{6} \text{ و } \pi - \frac{\pi}{6} = \frac{5\pi}{6}$$

$$\cos \alpha = \frac{\sqrt{3}}{2}$$

$$\alpha = \frac{\pi}{3} \text{ و } \pi - \frac{\pi}{3} = \frac{2\pi}{3}$$

④

ساخته

$$f(u) = \begin{cases} -u+1 & u > 1 \\ u^2 & -1 \leq u \leq 1 \\ u+1 & u < -1 \end{cases} \Rightarrow \begin{aligned} u > 1 &= y = -u+1 \quad (1, \infty) \\ -1 \leq u \leq 1 &= y = u^2 \quad (-1, 1) \\ u < -1 &= y = u+1 \quad (-\infty, -1) \end{aligned}$$

$$f(u) = \begin{cases} -u+1 & u > 1 \\ u^2 & -1 \leq u \leq 1 \\ -u-1 & u < -1 \end{cases} \Rightarrow \begin{aligned} (1, \infty) & u > 1 \quad y = -u+1 \\ (-1, 1) & -1 \leq u \leq 1 \quad y = u^2 \\ (-\infty, -1) & u < -1 \quad y = -u-1 \end{aligned}$$

الف) $y = (u-1)(u-2)(u-3)$

$$u=1, u=2, u=3$$

$$(-\infty, 1) \quad (1, 2) \quad (2, 3) \quad (3, \infty)$$

~~$$y = (u-1)(u-2)(u-3)$$~~

~~$$y = (u-1)(u-2)(u-3)$$~~

$$y = (u-1)(u-2)(u-3)$$

$$(-\infty, 1) \quad (1, 2) \quad (2, 3) \quad (3, \infty)$$

ب) $y = \frac{(u-1)(u-2)}{u-3}$

$$(-\infty, 1) \quad (1, 2) \quad (2, 3) \quad (3, \infty)$$

ج) $y = \frac{(u-1)(u-2)}{(u-3)^2}$

$$(-\infty, 1) \quad (1, 2) \quad (2, 3) \quad (3, \infty)$$

sam

Subject:

Date: / /

$$y = \frac{u^r - ru + r}{u - r}$$

$$u^r - ru + r = (u-1)(u-r)$$

(افت)

(9)

$$y = \frac{(u-1)(u-r)}{(u-r)}$$

$$(-\infty, 1) \cup (1, r) \cup (r, \infty)$$

+ - + -

$$y = \frac{u^r - ru + r}{u^r - ru + r}$$

$$u^r - ru + r = (u-1)(u-r)$$

$$u^r - ru + r = (u-1)(u-r)$$

$$\Delta = 1 - r = -r < 0$$

فقط

$$(-\infty, 1) \cup (1, r) \cup (r, \infty)$$

+ - +

$$y = \frac{u^2 - u^r}{u^r u + 1}$$

$$u^2 - u^r = u^r(u^r - 1) = u^r(u-1)(u+r)$$

$$u^r + u + 1$$

$$\Delta = 1 - r = -r < 0$$

(افت) (10)

$$(-\infty, -1) \cup (-1, 0) \cup (0, 1) \cup (1, \infty)$$

+ - - +

$$u^r u + 2$$

$$\Delta = r^2 - \varepsilon(1)(r) = r - r = -r < 0$$

(→)

$$u^r u + 2$$

→ 4 بلوكه