

$$x = \sqrt[3]{y-1}$$

$$R_f = \mathbb{R}$$

$$y = x^3 - 3x + 1 + \delta, 2\delta - \delta, 2\delta \quad (\text{ب})$$

$$(x-1, \delta)^3 = y + \delta, 2\delta$$

$$x = \pm \sqrt[3]{y + \delta, 2\delta} + 1, \delta$$

$$R_f = [0, 2\delta, +\infty)$$

$$y|x| - 4y = 2|x| + 1 \quad (\text{ب})$$

$$|x|(y-2) = 4y + 1 \rightarrow |x| = \frac{4y+1}{y-2}$$

$$\frac{-\frac{1}{4}}{+1} \frac{y}{-1} + \quad R_f = (-\infty, -\frac{1}{4}] \cup (2, +\infty)$$

$$R_f = (-\infty, \frac{1}{-4}] \quad - \frac{1}{x^2 - 4x} \leq \frac{1}{-4x}$$

$$x_{\max} = \frac{-b}{2a} = \frac{-1}{-2} = \frac{1}{2} \quad (\text{ب})$$

$$y_{\max} = -1 + 1 + 1 = 1$$

$$R_f = (-\infty, 1]$$

$$x_{\max} = \frac{-b}{2a} = \frac{1}{2} \quad (\text{ب})$$

$$y_{\max} = -1 + 1 + 10 = 10$$

$$R_f = \sqrt{(-\infty, +10]} = [0, \sqrt{10}]$$

17, 1700

آترسا آقا صالحه

(ب)

$$y + \delta = x^2$$

(الف) ①

$$\pm \sqrt{y + \delta} = x$$

②

$$R_f = [-\delta, +\infty)$$

$$(x-2)^2 = y-2 \quad (\text{الف}) ③$$

صبر کنید

$$x-2 = \pm \sqrt{y-2} \rightarrow x = \pm \sqrt{y-2} + 2$$

④

$$R_f = [2, +\infty)$$

$$x^2 + 3 = yx^2 - 2y \quad (\text{الف}) ⑤$$

$$x^2(1-y) = -3-2y \quad x = \pm \sqrt{\frac{3+2y}{y-1}}$$

$$\frac{-\frac{3}{2}}{+\frac{1}{2} - \frac{1}{2}} +$$

$$R_f = (-\infty, -1, \delta] \cup (1, +\infty)$$

$$x^2 \geq 0 \quad x^2 - 4x \geq -4x$$

⑥

$$x_{\min} = \frac{c}{p} = 3 = \frac{-b}{2a}$$

(الف) ⑦

$$y_{\min} = -1 \quad R_f = [-1, +\infty)$$

$$x_{\min} = \frac{c}{p} = 3 \quad (\text{الف}) ⑧$$

$$y_{\min} = -1 \quad R_f = \sqrt{[-1, +\infty)} =$$

⑨

$$= [0, +\infty)$$

$$R_f = [0, +\infty)$$

(ب)

$$R_f = \mathbb{R}$$

(الف) ⑦

بزرگترین توان ۲ فرد



⑤

$$[0, +\infty) - \{2\}$$

(ب)

$$\sqrt{3} = 2$$

$$R_f = \mathbb{R} - \{3\}$$

(الف) ①

⑥

$$\mathbb{R} - \left\{\frac{a}{c}\right\}$$

$$1 - 2x = 0$$

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$$x = 1$$

$$y = \frac{x}{-x} = -2$$

(ب)

$$x - 2 = 0$$

(الف) ⑨

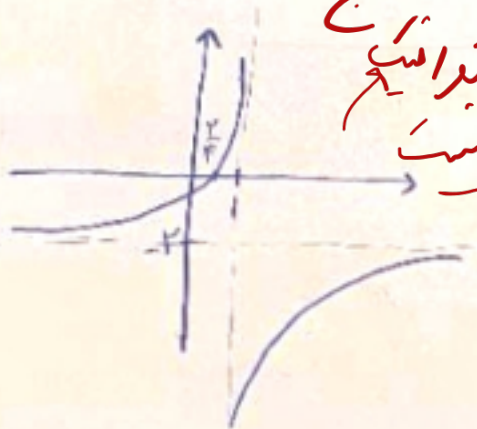
$$ad - bc < 0$$

$$x = 2$$

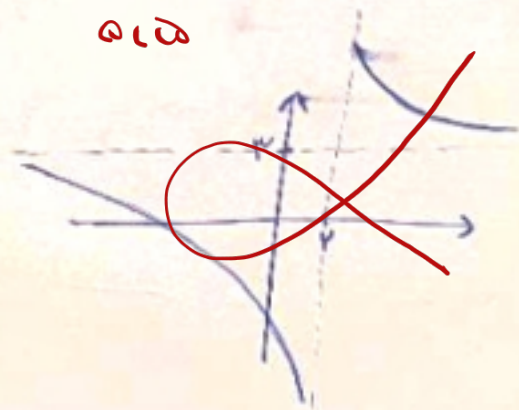
$$y = \frac{x}{x} = 1$$

۵، ۱۷

اصل تابع
معمولاً
نسبت



۵، ۱۵



$$\sqrt[3]{\frac{x^2}{x}} = \sqrt[3]{x}$$

۵، ۱۵

(ب)

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

$$R_f = [2, +\infty)$$

(الف)

⑩

اصل قسما الف؟

①

$$R_f = (-\infty, -2]$$

$$x > 0 \rightarrow (\sqrt[3]{x}, +\infty)$$

$$x < 0 \rightarrow (-\infty, \sqrt[3]{-x}]$$