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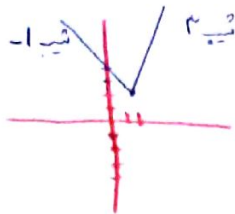
سری

بازدهر بسرا

عالمیرضا مؤمنی

$$y = 2x + |2x - 4|$$

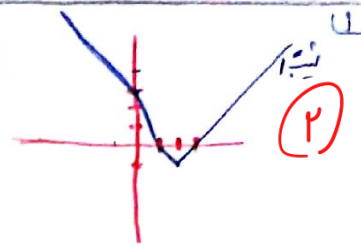
$$\frac{x}{\varepsilon - 2} \mid \frac{x}{2x - 4}$$



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

$$y = |2x - 4| + |x - 1| - |x|$$

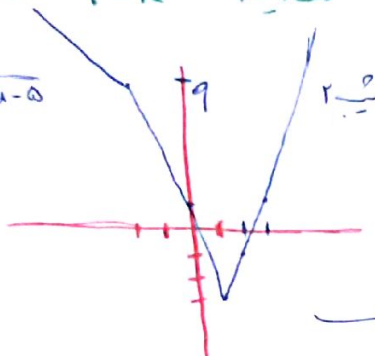
$$\frac{x}{2x - 4} \mid \frac{x}{x - 1} \mid \frac{x}{-x}$$



$$R_f = [-1, +\infty) \checkmark$$

$$|2x - 4| - |x + 1| = k \quad k = ? \quad x = -2$$

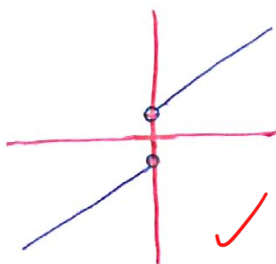
$$\frac{-2}{2x - 4} \mid \frac{1}{x + 1} \mid \frac{x}{x - 5}$$



$$\left. \begin{array}{l} \text{تفاضل نقطه‌ای که با x} \\ \text{یک نقطه یکسان می‌دهد} \end{array} \right\} = \left| \frac{1}{-2} \right| \rightarrow \begin{array}{l} x = 1 \\ k = -2 \end{array} \checkmark$$

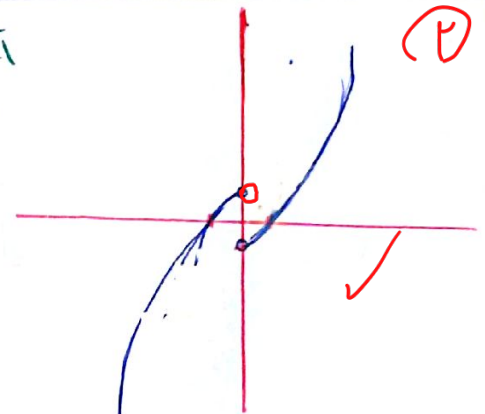
$$y = x + \frac{x}{|x|}$$

$$\frac{x}{x - 1} \mid \frac{x}{x + 1}$$

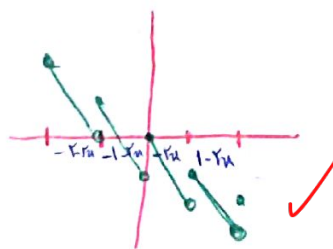


$$y = x|x| - \frac{x}{|x|}$$

$$\frac{1 - x^2}{x^2 - 1}$$



$$y = [x] - x$$



$$y = r \sin \theta + r \cos \theta \quad y = \varepsilon \sin \theta - \cos \theta \quad \sqrt{\varepsilon^2 + 1} = \sqrt{1 + \varepsilon^2} \quad (2)$$

$$R_f = [\varepsilon, \sqrt{1 + \varepsilon^2}] \quad R_f = [-\varepsilon, \varepsilon] \quad \checkmark$$

$$y = [r \sin \theta + r \cos \theta] \quad \sqrt{1 + \varepsilon^2} = \sqrt{1 + \varepsilon^2}$$

$$R_f = [-\varepsilon, \varepsilon] \quad \checkmark$$

$$y = \sqrt{1 + \varepsilon^2} \sin \theta \quad \sqrt{1 + \varepsilon^2} = \sqrt{1 + \varepsilon^2}$$

$$R_f = \sqrt{[1, 1]} = [1, \sqrt{1 + \varepsilon^2}] \quad \checkmark$$

$$y = \sin \theta + \cos \theta \quad 1 \rightarrow 1$$

$$-1 \rightarrow 0$$

$$\frac{-b}{r_0} = \frac{-r}{r} \rightarrow \frac{-1}{\varepsilon}$$

$$R_f = [\frac{0}{\varepsilon}, 1] \quad \checkmark$$

$$y = \sin \theta + \cos \theta \quad 1 \rightarrow 1$$

$$-1 \rightarrow 1$$

$$\frac{-b}{r_0} = \frac{-r}{r} \rightarrow \frac{1\varepsilon}{1\varepsilon} = \frac{1}{\varepsilon}$$

$$R_f = [\frac{1}{\varepsilon}, 1] \quad \checkmark$$

$$\sin \theta = \frac{-r}{r} \quad \text{وقت!}$$

$$y = \sin \theta + \varepsilon \cos \theta$$

$$y = r \cos^2 \theta + 1$$

$$1 \rightarrow \varepsilon$$

$$-1 \rightarrow \varepsilon$$

$$\frac{-b}{r_0} = \frac{-r}{r} \rightarrow 1$$

$$R_f = [1, \varepsilon] \quad \checkmark$$

$$y = \frac{r \cos \theta}{1 + \cos \theta} = \frac{r \cos \theta}{\frac{\sin \theta}{\sin \theta}} = r \sin \theta = \sin \theta$$

$$R_f = [-1, 1] \quad \checkmark$$

$$y = \sin^2 \theta + \cos^2 \theta$$

$$y = [1 - \varepsilon^2, 1]$$

$$R_f = [\frac{1}{\varepsilon}, 1] \quad \checkmark$$

$$y = \sin^2 \theta + \cos^2 \theta$$

$$R_f = \{0, 1\}$$

چون بیانیته دره فقط
دو مقدار صحیح میدهد

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

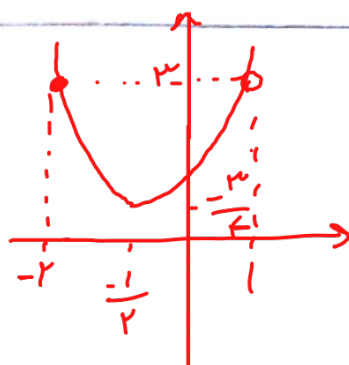
$$D_f = \mathbb{R} - \{-\varepsilon\}$$

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

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

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

$$R_f = [\frac{3}{\varepsilon}, +\infty) - \{1\}$$



چون بعضی است 3 = r - 1 پس 3 حذف کنید!