

فقریبین (خند) (۱)

$$g = 2x - 1 \xrightarrow{x_1 = x_2} y_1 = y_2$$

$$2x_1 - 1 = 2x_2 - 1 \rightarrow y_1 = y_2 \rightarrow \text{مستقیم است}$$

$$b) y^3 + y = 2x^2 - 1 \rightarrow x_1 = x_2 \quad y_1^3 = y_2^3$$

$$2x_1^2 - 1 = 2x_2^2 - 1 \rightarrow y_1^3 + y_1 = y_2^3 + y_2$$

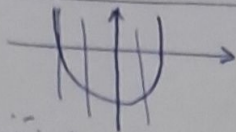
$$y_1^3 - y_2^3 + y_1 - y_2 = 0 \rightarrow (y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + y_1 + y_2 + 1) = 0$$

$$(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + y_1 + y_2 + 1) = 0$$

$$y_1 - y_2 = 0 \rightarrow y_1 = y_2 \rightarrow \text{مستقیم است}$$

نمودار گرافیم منحنی است و در صورتی است که این عبارت صفر است

$$g = x^2 - 1 \xrightarrow{\text{مشتق}} y = 2x$$



مستقیم است

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$$b) |y| + xy = x^2 + 1 \xrightarrow{\text{مثال نقیص}} |y| \neq 0 \quad xy = 0 + 1 \rightarrow |y| = 1 \rightarrow y = \begin{cases} 1 \\ -1 \end{cases}$$

توابع است

$$2) y^3 + x^3 = 2x - 1 \rightarrow y^3 = -x^3 + 2x - 1 \rightarrow x_1 = x_2 \xrightarrow{\text{الترقیه}} y_1^3 = y_2^3 \rightarrow y_1 = y_2 \rightarrow \text{مستقیم است}$$

$$c) \sqrt[3]{x} + \sqrt[3]{y} = 2 \rightarrow \sqrt[3]{y} = -\sqrt[3]{x} + 2 \rightarrow \text{مستقیم است}$$

$$\sin \alpha = \frac{1}{\sqrt{2}} \rightarrow \tan \frac{\pi}{4} \rightarrow \tan 45^\circ \rightarrow \sqrt{2} \quad \tan 33^\circ \rightarrow -\frac{\sqrt{2}}{2}$$

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$$\cot \frac{\sqrt{2}\pi}{4} \rightarrow \cot 45^\circ \rightarrow \sqrt{2}$$

$$\cot 110^\circ \rightarrow \text{تقریباً منفی}$$

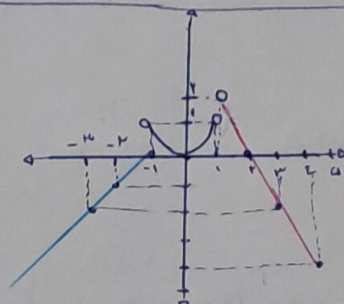
$$\sin \alpha = \frac{1}{\sqrt{2}} \rightarrow 45^\circ, 135^\circ$$

$$\cos \alpha = \frac{\sqrt{2}}{2} \rightarrow 45^\circ, 315^\circ$$

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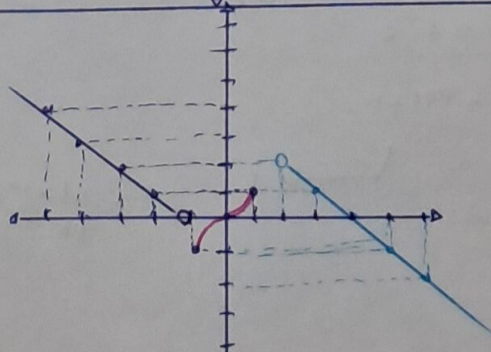
$$f(x) = \begin{cases} -x+2 & x > 1 \\ x^2 & -1 \leq x \leq 1 \\ -x-1 & x < -1 \end{cases}$$

(۵)



$$f(x) = \begin{cases} -x+2 & x > 1 \\ x^2 & -1 \leq x \leq 1 \\ -x-1 & x < -1 \end{cases}$$

(۶)



$$y = \frac{(n-r)(n-r)(n-z)}{r}$$

$$\begin{array}{c|c|c|c} r & r & z & \\ \hline - & + & - & + \end{array}$$

$$y = \frac{(n-r)(n-r)(n-r)(n-z)}{r}$$

$$\begin{array}{c|c|c|c} r & r & z & \\ \hline + & - & - & + \end{array}$$

$$\frac{(n-r)(n-z)}{n-r}$$

$$\begin{array}{c|c|c|c} r & r & z & \\ \hline - & + & - & + \end{array}$$

$$\frac{(n-r)(n-z)}{(n-r)r}$$

$$\begin{array}{c|c|c|c} r & r & z & \\ \hline + & - & - & + \end{array}$$

$$y = \frac{n^2 - rn + r}{n-r} \rightarrow \frac{(n-1)(n+r)(n-1)}{n-r}$$

$$\begin{array}{c|c|c|c} -r & 1 & r & \\ \hline + & - & - & + \end{array}$$

$$y = \frac{n^2 - rn + r}{n^2 - zn + r} \quad \frac{(n-1)(n-r)}{(n-1)(n-r)}$$

$$\begin{array}{c|c|c|c} 1 & r & r & \\ \hline + & - & - & + \end{array}$$

$$\text{الف) } y = \frac{n^2 - n^2}{n^2 + n + r} \rightarrow n^2(n^2 - 1) \rightarrow n^2(n-1)(n+1)$$

$$\begin{array}{c|c|c|c} -1 & 1 & 1 & \\ \hline + & - & - & + \end{array}$$

$$\Delta = b^2 - 4ac \rightarrow 1 - 4x + x^2 > -1 \rightarrow \text{فرض همواره مثبت}$$

$$\text{ب) } y = \frac{n^2 + rn + c}{n^2 + rn + r} \rightarrow \Delta = 9 - 4x + x^2 = -1 \rightarrow \text{فرض همواره مثبت}$$

$$\Delta = 9 - 4x + x^2 > -1 \rightarrow \text{فرض همواره مثبت}$$

فرض همواره مثبت