

۱۱، ۲۵

محمد حسن شنبه / ۱۳، ۹، ۱۳۵۵ / دهم A پسر

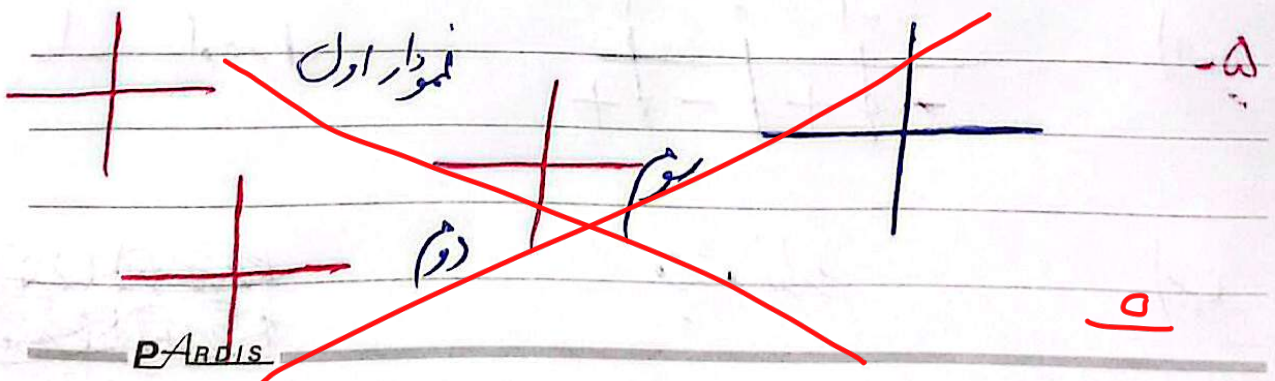
۱- تابع $\sqrt{x}$ $\rightarrow x = -1 \rightarrow x^3 = -1 \rightarrow x = -1$ (الف)
 و این صفت جون

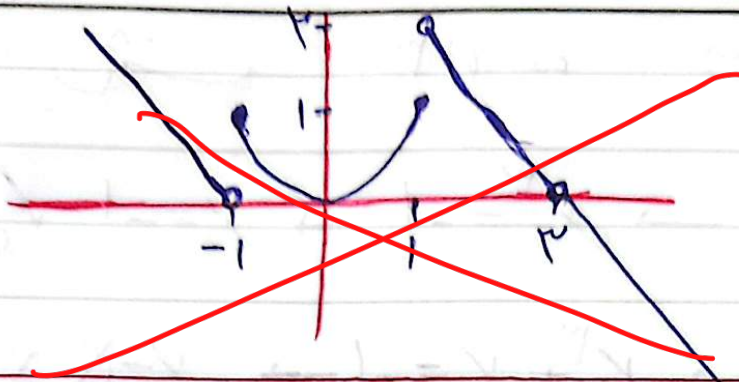
تابع $x \rightarrow x^3 + x = -1 \rightarrow x = -1$ (ب)

۲-
 (الف) $x = x \rightarrow x = 1$ ✓
 (ب) $x = x \rightarrow x = -1$ ✗
 (ج) $x = x \rightarrow x = 1$ ✓
 (د) $x = x \rightarrow x = 2$ ✓

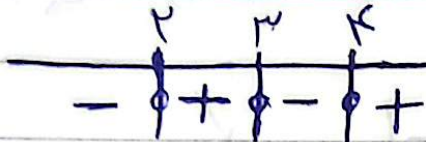
۳-
 (الف) $\sqrt{3}$
 (ب) $\sqrt{3}$
 (ج) $-\frac{\sqrt{3}}{3}$
 (د) تعریف نشد ✓

۴-
 (الف) $\frac{\pi}{4}, \frac{5\pi}{4}$
 (ب) $\frac{\pi}{4}, \frac{7\pi}{4}$ ✓





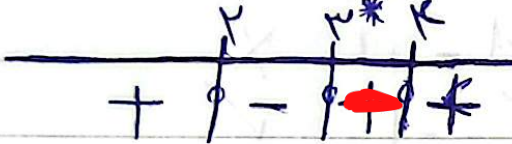
(الف)



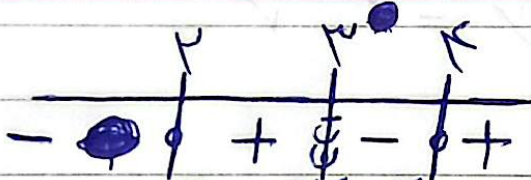
K, GP

-4

(ب)

1, 1.5

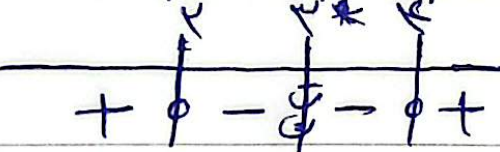
(الف)



K, GP

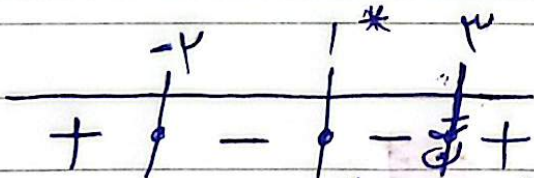
-1

(ب)



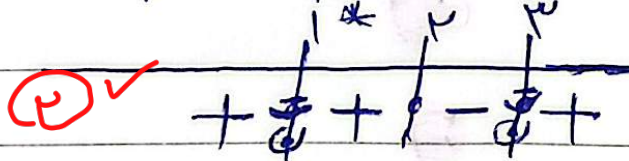
(C) ✓

(الف)

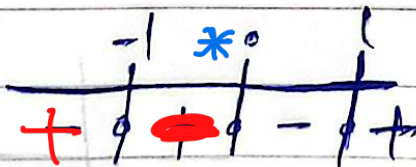
 $(x-1)^2(x+2)$

-4

(ب)

 $(x-2)(x-1)$ $(x-1)(x-2)$

(الف)

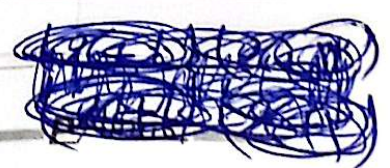


-1, 1.5

(ب)

1.5

درشت ندارد



۱- الف)

$$y^3 = 2x^2 - 1 \rightarrow y_1^3 = 2x_1^2 - 1$$

$$y_2^3 = 2x_2^2 - 1 \xrightarrow{x_1 = x_2} y_1^3 = y_2^3 \rightarrow y_1 = y_2$$

ب ←

$$y_1^3 + y_1 = 3x_1^2 - 1$$

$$y_2^3 + y_2 = 3x_2^2 - 1 \xrightarrow{x_1 = x_2} y_1^3 + y_1 = 3x_1^2 - 1$$

$$y_2^3 + y_2 = 3x_1^2 - 1$$

$$\rightarrow y_1^3 + y_1 = y_2^3 + y_2 \rightarrow$$

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

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

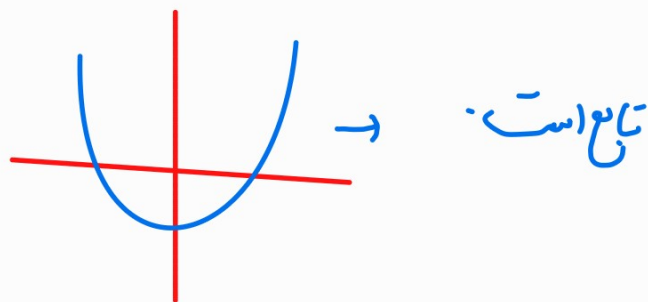
$$y_1 = y_2 \checkmark \rightarrow \text{تابع است}$$

$$y_1^3 + y_1 y_2 + y_2^3 + 1 = 0 \rightarrow \Delta = (y_2)^2 - 4(y_2^3 + 1) = -3y_2^2 + 4 \rightarrow \Delta < 0$$

← ریشه ندارد

۲- الف) همین تئورم را می‌توانیم به این رابطه تابع است.

$$y = x^2 - 1$$



د)

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

تعریف ریاضی

$$\sqrt[3]{y_1} + \sqrt[3]{x_1} = 1$$

$$\sqrt[3]{y_2} + \sqrt[3]{x_2} = 1 \xrightarrow{x_1 = x_2 = x} \sqrt[3]{y_1} + \sqrt[3]{x} = 1$$

$$\sqrt[3]{y_2} + \sqrt[3]{x} = 1 \rightarrow \sqrt[3]{y_1} = \sqrt[3]{y_2} \rightarrow y_1 = y_2$$

۲. ب - مثال نقض

$$|y| + xy = x^2 + 1$$

$$x=0 \rightarrow |y|=1 \rightarrow y=\pm 1$$

تابع نیست

$$y^{(n)} + x^n = 2x_{n-1}$$

ج

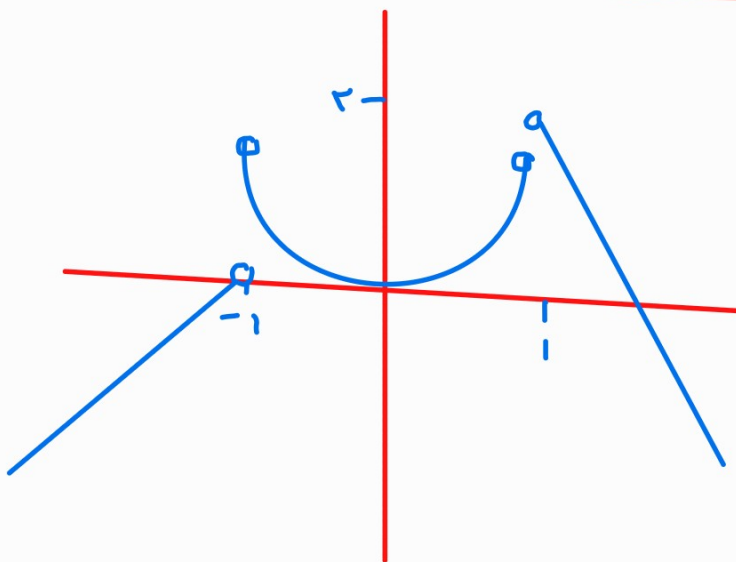
$$y_1^{(n)} + x_1^n = 2x_{n-1}$$

$$y_2^{(n)} + x_2^n = 2x_{n-1}$$

$$x_1 = x_2 \rightarrow y_1^{(n)} = y_2^{(n)} \rightarrow y_1 = y_2$$

تابع است

۳-



۴-

