

۱۹,۲۵

پایین صفت جنون

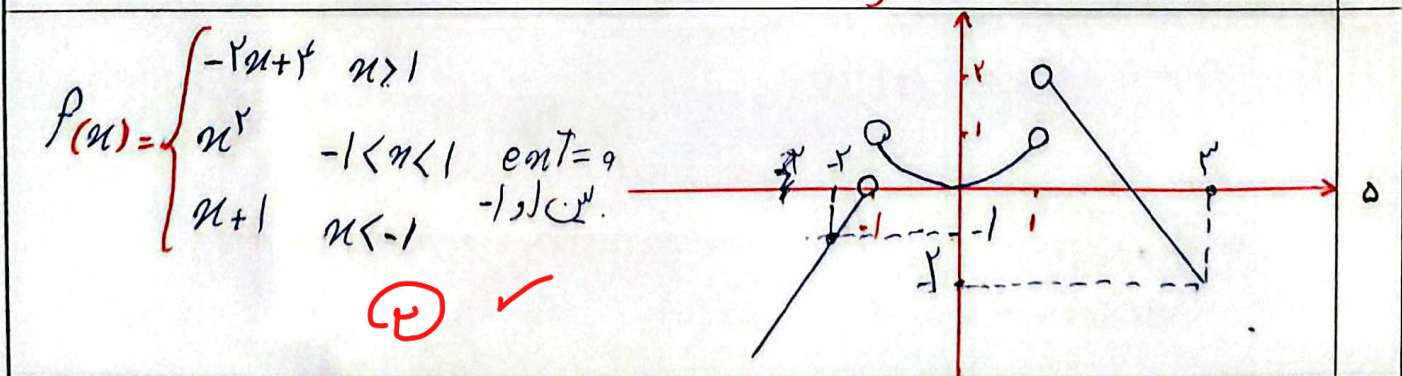
دالف $y^3 = 2x^2 - 1$
 $\left\{ \begin{array}{l} y_1^3 = 2x_1^2 - 1 \\ y_2^3 = 2x_2^2 - 1 \end{array} \right\} \xrightarrow{x_1 = x_2} y_1^3 = y_2^3 \Rightarrow y_1 = y_2$ تابع است
 ب $y^3 + y = 2x^2 - 1$

ب $y_1^3 + y_1 = 2x_1^2 - 1$
 $\left\{ \begin{array}{l} y_1^3 + y_1 = 2x_1^2 - 1 \\ y_2^3 + y_2 = 2x_2^2 - 1 \end{array} \right\} \xrightarrow{x_1 = x_2} y_1^3 + y_1 = y_2^3 + y_2$ تابع است
 ب $y_1 = y_2$
 ب $y_1^3 + y_1 = y_2^3 + y_2$ که تابع مستند است
 ب $y_1 = y_2$

دالف $y = x^2 - 1$
 ب $|y| + xy = x^2 + 1$
 $\hookrightarrow |y| = x^2 - xy + 1$
 $x=0 \Rightarrow |y| = 1 \Rightarrow y = \pm 1$
 ب $y_1 = y_2$
 ب $y_1^3 + x_1^3 = 2x_1 - 1$
 $\left\{ \begin{array}{l} y_1^3 = 2x_1 - x_1^3 - 1 \\ y_2^3 = 2x_2 - x_2^3 - 1 \end{array} \right\} \xrightarrow{x_1 = x_2} y_1^3 = y_2^3 \Rightarrow y_1 = y_2$ تابع است
 ب $\sqrt[3]{y} + \sqrt{x} = 2$
 $\sqrt[3]{y_1} = 2 - \sqrt{x_1}$
 $\sqrt[3]{y_2} = 2 - \sqrt{x_2}$
 $\sqrt[3]{y_1} = \sqrt[3]{y_2} \Rightarrow y_1 = y_2$ تابع است
 ب $\sqrt[3]{y} + \sqrt{x} = 2$

دالف $\tan \frac{\pi}{3} = \frac{\sqrt{3}}{1} = \sqrt{3}$
 ب $\cot \frac{\pi}{4} = \frac{\sqrt{3}}{1} = \sqrt{3}$
 ب $\tan 30^\circ = \frac{1}{\sqrt{3}} = -\frac{1}{\sqrt{3}}$
 ب $\cot 11.^\circ =$ تعریف شده

دالف $\sin \alpha = \frac{1}{2}$
 $\sin \alpha = \left\{ 2K\pi + \frac{\pi}{6}, 2K\pi + \frac{5\pi}{6} \right\}$
 ب $\cos \alpha = \frac{\sqrt{2}}{2}$
 $\cos \alpha = \left\{ 2K\pi \pm \frac{\pi}{4} \right\}$



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

$$y_2^3 + y_2 = 3x_2^2 - 1$$

$$\xrightarrow{x_1 = x_2}$$

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

$$y_2^3 + y_2 = 3x_2^2 - 1$$

← ب

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

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

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

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

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

← ریشه ندارد