

الف) $y = \frac{(n-2)}{2} \cdot \frac{(n-3)}{3} \cdot \frac{(n-4)}{4}$

$\frac{2}{-} \frac{3}{+} \frac{4}{-} \frac{5}{+}$

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$y = \frac{(n-2)}{2} \cdot \frac{(n-3)}{3} \cdot \frac{(n-4)}{4}$

$\frac{2}{+} \frac{3}{-} \frac{4}{-} \frac{5}{+}$

✓ (2)

ب) $y = \frac{(n-2)(n-4)}{n-3}$

$\frac{2}{-} \frac{3}{+} \frac{4}{-} \frac{5}{+}$

(2) ✓

ج) $y = \frac{(n-2)(n-4)}{(n-3)^2}$

$\frac{2}{+} \frac{3}{-} \frac{4}{-} \frac{5}{+}$

د) $y = \frac{n^2 - 3n + 2}{n-3} \Rightarrow \frac{(n-1)^2(n+2)}{n-3}$

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ه) $y = \frac{(n-1)(n-2)}{(n-1)(n-3)}$

$\frac{1}{+} \frac{2}{+} \frac{3}{-} \frac{4}{+}$

$\frac{-2 \neq 1}{+} \frac{3}{-} \frac{4}{+}$

و) $y = \frac{n^2 - n^2}{n^2 + n + 1} \cdot \frac{(n-1)(n+1)(n^2+1)}{n^2 + n + 1}$

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

(1)

ز) $y = \frac{n^2 + 3n + 1}{n^2 + 2n + 2}$

$\frac{-1 \neq 0}{+} \frac{1}{-} \frac{1}{+}$

$\frac{1+3-1}{1+2+2} = \frac{3}{5}$

باین صنفی بودن

$$y^r = r m^r - 1$$

$$y_1^r = r m_1^r - 1 \xrightarrow{m_1 = m_2} y_1^r = y_2^r \Rightarrow y_1 = y_2$$

$$y_r^r + y = r m_r^r - 1$$

$$y_1^r + y_1 = r m_1^r - 1 \xrightarrow{m_1 = m_2} y_1 = y_2$$

تابع هست

ناقص - ارامه ؟

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$$y = n^r - 1 \xrightarrow{m_1 = m_2} y_1 = y_2$$

تابع هست

$$|y| + n y = n^r + 1 \Rightarrow |y| = n^r - n y + 1 \xrightarrow{n=0} |y| = 1 \quad y = \pm 1$$

تابع هست

$$y^r + n^r = r m - 1 \Rightarrow y_1^r = -n_1^r + r m_1 - 1 \xrightarrow{m_1 = m_2} y_1^r = y_2^r \Rightarrow y_1 = y_2$$

$$y_2^r = -n_2^r + r m_2 - 1$$

✓

تابع هست

$$\sqrt[r]{y} + \sqrt[r]{n} = r \Rightarrow \sqrt[r]{y_1} = r - \sqrt[r]{n_1} \xrightarrow{n_1 = n_2} \sqrt[r]{y_1} = \sqrt[r]{y_2} \Rightarrow y_1 = y_2$$

$$\sqrt[r]{y_2} = r - \sqrt[r]{n_2}$$

ان) $\tan \frac{\pi}{4} = \frac{\sin \frac{\pi}{4}}{\cos \frac{\pi}{4}} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$

تابع هست

$$\cot \frac{\sqrt{2}}{2} = \frac{\cos \frac{\sqrt{2}}{2}}{\sin \frac{\sqrt{2}}{2}} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$$

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تابع هست

$$\tan \pi = \frac{\sin \pi}{\cos \pi} = \frac{0}{-1} = 0$$

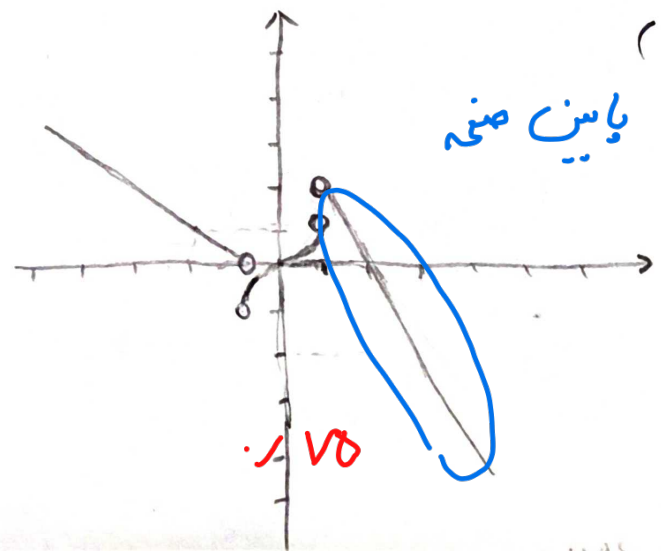
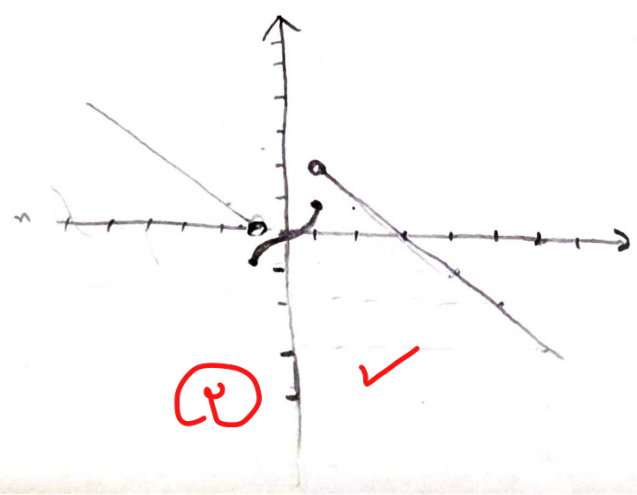
تابع هست

$$\cot \pi = \frac{\cos \pi}{\sin \pi} = \frac{-1}{0} \Rightarrow \text{تعیین نشده}$$

ان) $\sin \alpha = \frac{1}{r} \quad r = 10^\circ$

تابع هست

$$\cos \alpha = \frac{\sqrt{2}}{r} \quad r = 10^\circ \quad 45^\circ, 135^\circ \quad \checkmark \quad 1$$



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

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

$$\xrightarrow{x_1 = x_2}$$

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

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

← ب

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

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

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

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

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

← ریشه ندارد

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