

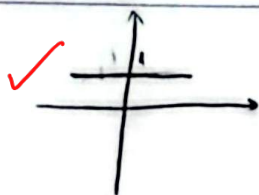
الف) $y^3 - n = 2n^2$ طبق $\begin{cases} (n_1, y_1) \in f \\ (n_2, y_2) \in f \end{cases} \xrightarrow{\text{if } n_1 = n_2} y_1 = y_2$ ①

$\Rightarrow y_1^3 - n_1 - 2n_1^2 = y_2^3 - n_2 - 2n_2^2 \xrightarrow{\text{if } n_1 = n_2} y_1^3 = y_2^3 \xrightarrow{\sqrt[3]{\quad}} y_1 = y_2$ تابع ②

ب) $|y| + n^2 = n^2 + 3 \Rightarrow |y| = 3 \Rightarrow y = \pm 3$ تابع ③

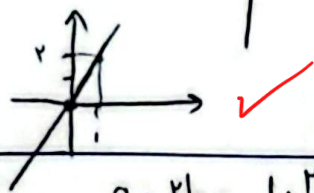
ج) $\sqrt{n-2} + |y-2| = 0$ مبرهنه با هم $\Rightarrow |y-2| = 0 \Rightarrow y = 2$ تابع ④
(صورت منفی نمی‌تواند باشد)

د) $\hat{y} = \cos y \Rightarrow y = 90^\circ \text{ و } 270^\circ$
 $y = \frac{\pi}{2} \text{ و } \frac{3\pi}{2}$ تابع ⑤



الف) تابع ثابت $y = k$ طبق [3] $y = 1$ ⑥

ب) تابع قطره $y = an + b$ طبق نقشه 1 و 2 $y = 2n$ ⑦



الف) تابع همبانی $y = an + b$ $a=1, b=0 \Rightarrow y = n$ ⑧

طبق نقشه 1 و 2 در سطر $y = an + b$ $-b/a = 2, 1 = 1 + 2a + b \Rightarrow -2 = 2a + b \xrightarrow{b = -2a}$ ⑨

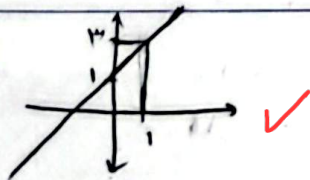
$-b \leq 2a \Rightarrow b \geq -2a$

باین صفحه!

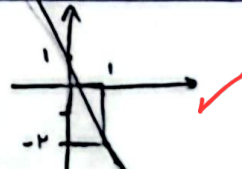
$a + 2b = \frac{2}{1} - \frac{2^2}{1} = -2$

$-4 = b, \frac{2}{1} = a$

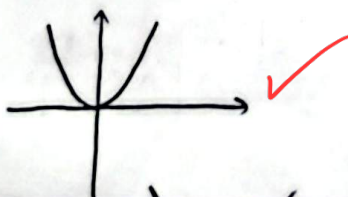
الف) $y = 2n + 1$



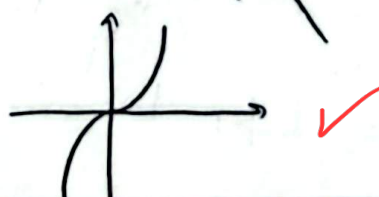
ب) $y = -2n + 1$



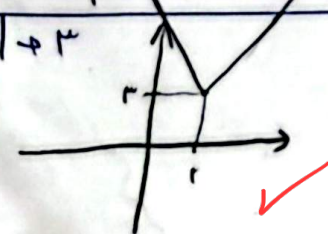
ج) $y = n^2$



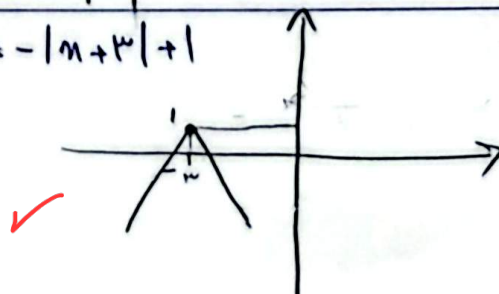
د) $y = n^3$



ه) $y = |n-2| + 3$



ب) $y = -|n+3| + 1$



ج) $y = \frac{n+r}{n^2-rn} \quad n^2-rn \neq 0 \Rightarrow n(n-r) \neq 0 \quad (Df = \mathbb{R} - \{0, r\})$ (4) (2)

د) $y = \frac{n+r}{n^2-vn+14} \quad n^2-vn+14 \neq 0 \Rightarrow \frac{-b \pm \sqrt{b^2-4ac}}{2a} \Rightarrow v \pm \sqrt{r^2-4r}$ (دفاصق، درجہ شمار)
 $Df = \mathbb{R}$

ه) $y = \frac{n+r}{n^2+n+r} \quad n^2+n+r \neq 0 \Rightarrow \frac{-1 \pm \sqrt{1-4r}}{2} = \text{دفاصق، درجہ شمار} \quad Df = \mathbb{R}$

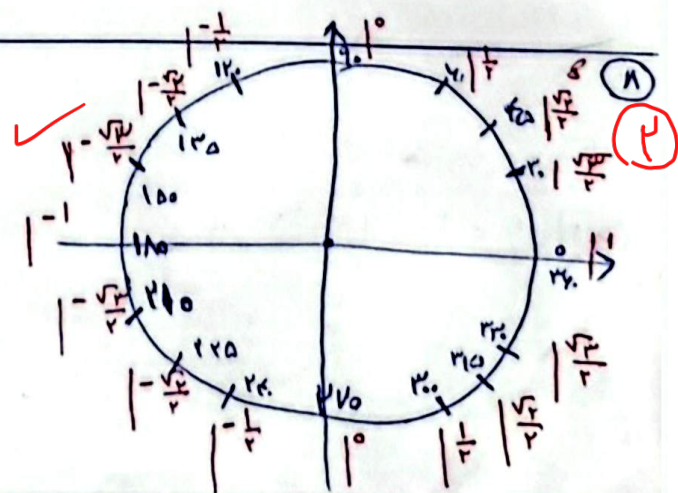
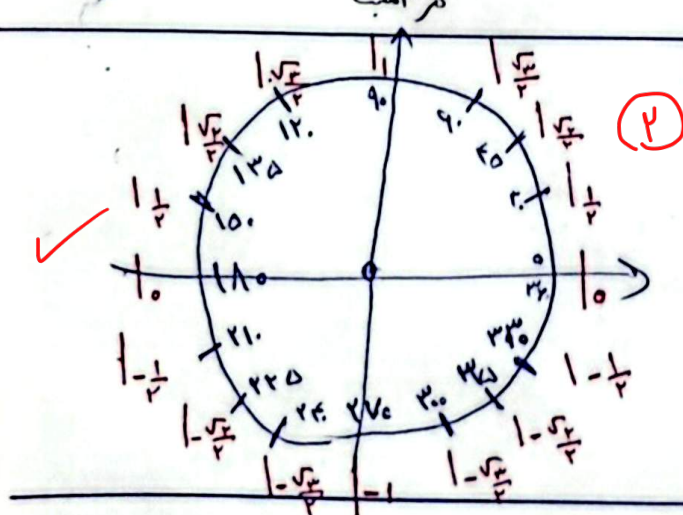
و) $y = \frac{n+r}{2r^2-rn} \quad n^2-rn \neq 0 \Rightarrow \frac{n^2-rn}{n} (n+r) \neq 0 \Rightarrow \frac{n(n-r)}{n} \frac{n(n+r)}{-r} \quad Df = \mathbb{R} - \{0, r, -r\}$

ز) $y = \sqrt{4-n} + \sqrt{n-2} \rightarrow n-2 \geq 0 \Rightarrow n \geq 2 \quad Df = [4, 2]$ (4) (2)
 $4-n \geq 0 \Rightarrow 4 \geq n \Rightarrow 4 \geq n \geq 2$

ح) $y = \frac{r_n+1}{n^2+1} \Rightarrow n^2+1 \neq 0 \rightarrow n^2 \neq -1 \quad Df = \mathbb{R}$

ط) $y = \frac{\sqrt{n-2}}{n-2} \Rightarrow n-2 \neq 0 \rightarrow n \neq 2, \quad n-2 \geq 0 \Rightarrow n \geq 2 \rightarrow Df = [2, +\infty) - \{2\}$

ث) $y = \frac{r_n+r}{|n|+n^2} \Rightarrow |n|+n^2 \neq 0 \quad Df = \mathbb{R} - \{0\}$



ا) $\frac{5\pi}{6} > \frac{\pi}{6} \leq 150^\circ$ ← سینوس زاویه $\frac{1}{2} = \frac{2\pi}{3} = \frac{120^\circ}{180^\circ}$ (2) (10)

ب) $\frac{5\pi}{3} > \frac{\pi}{3} \leq 300^\circ$ ← سینوس زاویه $-\frac{\sqrt{3}}{2} = \frac{11\pi}{6} = \frac{330^\circ}{180^\circ}$

$$\rightarrow y = x^2 + ax + b \quad \text{Min } \int_1^2 \Rightarrow x_5 = 2, y_5 = 1$$

$$\left. \begin{array}{l} x_5 = -\frac{b}{2a} \rightarrow -\frac{a}{2} = 2 \Rightarrow a = -4 \\ y_5 = 1 \rightarrow 1 = (2)^2 - 4(2) + b \Rightarrow b = 9 \end{array} \right\} a + 2b = -4 + 2(9) = \underline{14}$$