

نام و نام خانوادگی: ... فسران شیرازی ... پاسخنانه تشریحی تکلیف شماره ۱... کلاس دوازدهم ... A

۱) $y^3 - 2x^2 = 2n - 1 \rightarrow y^3 = 2n^2 + 2n - 1$ | ۲) $\frac{x+y}{2} = \sqrt{xy} \rightarrow x+y = 2\sqrt{xy}$
 $\rightarrow x+y - 2\sqrt{xy} = 0 \rightarrow (\sqrt{x} - \sqrt{y})^2 = 0$
 $\rightarrow \sqrt{x} = \sqrt{y} \rightarrow x = y$ ~~تابع هست~~
 تعریف $y_1^3 = 2n_1^2 + 2n_1 - 1$ $\rightarrow y_1^3 = y_2^3 \rightarrow y_1 = y_2$ ~~تابع هست~~
 تابع $y_2^3 = 2n_2^2 + 2n_2 - 1$
 ب) $x \cos y = y \cos x$ | ۳) $xy^2 + 2x - y - 2y = 0$
 $\rightarrow x = \frac{\pi}{2} \rightarrow \frac{\pi}{2} \cos y = y \cos \frac{\pi}{2} \rightarrow \frac{\pi}{2} \cos y = 0$ ~~تابع هست~~
 $\rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}, \dots$ ~~تابع نیست~~ $\rightarrow x = y \rightarrow$ ~~تابع هست~~

۱) $|y| + x^2 = 2y \rightarrow x^2 = 2y - |y|$ $\rightarrow x^2 = y$ $\rightarrow x = \sqrt{y}$
 $\rightarrow y < 0$ تقریب نشده $\rightarrow x^2 = 2y - |y|$
 $\rightarrow f \rightarrow$ ~~تابع هست~~
 ب) $[y] + [x] = 1$ ~~مثال نقض~~ $x = 0$ $[y] = 1 \rightarrow y = \frac{1}{2}, \frac{3}{2}, \dots$ ~~تابع نیست~~

$f(n) = \begin{cases} 2n^2 - b & n \geq 3 \\ a + 2n & 0 \leq n \leq c \\ 2n^2 - b & n \leq -1 \end{cases}$ $\rightarrow f(3) = a + 4 = 11 - b$
 $\rightarrow a + b = 11$

$f(n) = \sqrt{a - bn - n^2}$ $[a, b] \rightarrow a, b$ $\frac{p}{q}$
 $\frac{f(0)}{f(1)} = \frac{c}{a} \Rightarrow \frac{a}{-1} = -a = ab \rightarrow b = -1$ $a + b = 2 - 1 = 1$
 $\frac{f(2)}{f(1)} = \frac{-b}{a} \Rightarrow -\frac{b}{-1} = -b = a + b \xrightarrow{b=-1} 1 = a - 1 \rightarrow a = 2$

$\sqrt{ax^2 + bx + c}$ $\rightarrow$ $\frac{b}{4a}$ $\rightarrow$ $b < 0$
 $a \geq 0$ $\leftarrow$ $a \geq 0$ ساده بار $\leftarrow$ درجه ۱ $\leftarrow$
 $bx + c \xrightarrow{x=2} 2b + c = 0 \rightarrow c = -2b$

$\rightarrow 3a + c - 3|b| = 0 \xrightarrow{b < 0} 3a - 2b + 3b = b$ ~~صفر~~

$$y = \sqrt{\frac{r_m + r}{n + b}} + a$$

$$(r + \infty)$$

۲ باز است ← ریشه مجرب

$$b = -r$$

$$\rightarrow y = \sqrt{\frac{r_m + r}{n - r}} + a$$

$$\rightarrow y = \sqrt{\frac{r_m + r + an - ra}{n - r}}$$

$$\rightarrow \sqrt{\frac{(r+a)n + r - ra}{n - r}}$$

فقط یک دارد
دارد $a = -r$

$$الف) y = \sqrt{x^2 - n} \rightarrow x^2 - n \geq 0 \rightarrow n^0 (n-1)(n+1) >$$

$$\frac{-1}{-1} + \frac{1}{1} \rightarrow [-1 \ 0] \cup [1 + \infty)$$

$$ب) y = \frac{1}{\sqrt{|n|-1}} \rightarrow |n|-1 > 0 \rightarrow |n| > 1 \rightarrow \begin{matrix} n > 1 \\ n < -1 \end{matrix}$$

$$D = (-\infty -1) \cup (1 + \infty)$$

$$الف) y = \sqrt{\frac{1}{|n| - [n]}}$$

$$\rightarrow |n| - [n] \neq 0 \rightarrow |n| \neq [n]$$

$$x \in \mathbb{R} - \mathbb{Z}^+ - \{0\} \leftarrow x \notin \mathbb{Z}^+ \setminus \{0\}$$

$$ب) \sqrt{x} + \sqrt{2} = 9 \rightarrow 0 \leq x \leq 11$$

$$y = \sqrt{\frac{1}{[r_m - \frac{1}{r}] + [r_m + \frac{c}{r}]}} \rightarrow y = \sqrt{\frac{1}{r[r_m - \frac{1}{r}] + r}}$$

$$r[r_m - \frac{1}{r}] + r > 0 \rightarrow [r_m - \frac{1}{r}] > -1 \rightarrow r_m - \frac{1}{r} \geq 0 \rightarrow n \geq \frac{1}{r}$$

$$\sqrt{1 - \lg(r_m - a)}$$

$$I) r_m - a > 0 \rightarrow n > \frac{a}{r} \rightarrow b = \frac{a}{r}$$

$$II) 1 - \lg(r_m - a) > 0 \rightarrow 1 > \lg(r_m - a) \rightarrow 10 > r_m - a \rightarrow \frac{10+a}{r}$$

$$\rightarrow \frac{10+a}{r} = c \rightarrow c - b = \frac{10+a}{r} - \frac{a}{r} = 10$$