

۲۵ عالی نوشتی

تعلیل ۱.

دوازدهم A صوبہ

مریم ٹوکی

$$2y = 2n-1 \rightarrow 2n = 2y+1 \rightarrow n = \frac{2y+1}{2}$$

(سوال ۱۰) (۲)

$$\rightarrow f^{-1}(n) = \frac{2n+1}{2} \rightarrow n=0 \rightarrow y = \frac{1}{2} \sim \left(0, \frac{1}{2}\right)$$

$$C_{10}^0 S = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

$$= \frac{1}{12}$$



$$\frac{2n+1}{2} = 0 \rightarrow n = -\frac{1}{2} \rightarrow$$

$$\left(-\frac{1}{2}, 0\right)$$

(سوال ۲) (۲)

$$a) y = x^2 - 2x + 3 \quad x \in [1, +\infty)$$

$$\text{ext} \left| -\frac{b}{2a} = \frac{1}{1} = 1 \right|$$

دو طرف از محور است و نقطه استروم به دست می آید

$$y_{\min} = 2$$

پس جواب به صورت زیر است

$$\rightarrow \text{دو طرف از محور است} \rightarrow y = (x-1)^2 + 2 \rightarrow y-2 = (x-1)^2$$

$$\rightarrow \sqrt{y-2} = x-1 \rightarrow x = \sqrt{y-2} + 1$$

$$\rightarrow \boxed{y = \sqrt{x-2} + 1} \quad x \geq 2 \quad \checkmark$$

$$b) y = x^2 - 2x + 3 \quad x \in [2, +\infty)$$

$$\text{ext} \left| -\frac{b}{2a} = 1 \right|$$

دو طرف از محور است و نقطه استروم به دست می آید

$$y_{\min} = 2$$

پس جواب به صورت زیر است

$$\text{دو طرف از محور است} \rightarrow y = (x-1)^2 + 2 \rightarrow y-2 = (x-1)^2 \rightarrow \sqrt{y-2} = x-1$$

$$\rightarrow x = \sqrt{y-2} + 1 \rightarrow \boxed{y = \sqrt{x-2} + 1} \quad x \geq 2 \quad \checkmark$$

$$f(n) = 2n - \sqrt{14 - 5n(5-n)}$$

$$\sqrt{25n^2 - 14n + 14}$$

(2) سوال 13

$$f(n) = 2n - |2n - 5|$$

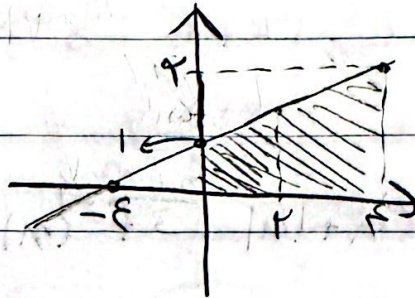
در حالت اول  $y = 5n - 5 \rightarrow y + 5 = 5n \rightarrow n = \frac{y+5}{5}$

در حالت دوم

$$\rightarrow y = \frac{n+5}{5} \rightarrow n \in (-\infty, 5]$$

در حالت دوم  $y = f(n)$  است و  
یک جواب می باشد

$$S = \frac{(1+5) \times 5}{5} = 6 \quad \checkmark$$



$$y = \frac{n}{\sqrt{n^2 - a}}$$

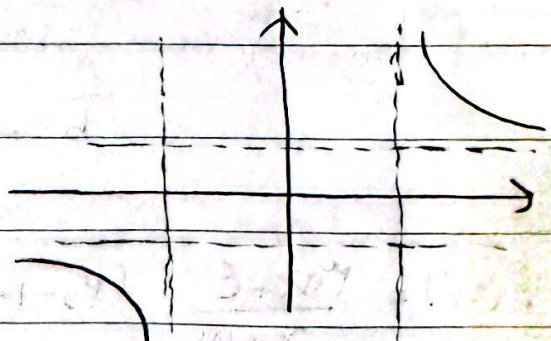
$$\rightarrow n^2 - a \neq 0 \rightarrow n^2 \neq a \rightarrow n \neq \pm \sqrt{a}$$

مجاورات

$$n \rightarrow +\infty \rightarrow \frac{n}{|n|} = 1$$

$$n \rightarrow -\infty \rightarrow \frac{n}{|n|} = -1$$

✓! جواب می باشد



در حالت اول  $y^2 = \frac{n^2}{n^2 - a} \rightarrow y^2 n^2 - a y^2 = n^2$

$$n^2(y^2 - 1) = a y^2 \rightarrow n^2 = \frac{a y^2}{y^2 - 1}$$

$$\rightarrow n = \sqrt{\frac{a y^2}{y^2 - 1}} \rightarrow y = \sqrt{\frac{a n^2}{n^2 - 1}} \quad \checkmark$$

در حالت دوم  $y = f(n)$  است و  
یک جواب می باشد

آپادانا

$$g(n) \begin{cases} n^r - \epsilon n + k & n \geq r \\ -n^r + 4n + rk & n < r \end{cases} \quad k=? \quad (\text{wollte})$$

$$n^r - \epsilon n + k \rightarrow n_s = r \rightarrow y_s = k - \epsilon$$

$$-n^r + 4n + rk \rightarrow n_s = r \rightarrow y_s = \Lambda + rk$$

$$k - \epsilon \geq rk + \Lambda \rightarrow rk \leq -1\epsilon \rightarrow k \leq -\epsilon$$

$$\rightarrow \boxed{k \in (-\infty, -\epsilon]} \quad \checkmark$$

$$f(n) = rn + |n| \quad f^{-1}(n) = an + b|n| \quad ab=? \quad (\text{r}) \quad (\text{yollte})$$

$$\frac{rn}{rn} \quad | \quad \frac{\epsilon n}{\epsilon n}$$

$$y = \epsilon n \rightarrow n = \frac{y}{\epsilon} \rightarrow y = \frac{n}{\epsilon} \rightarrow f^{-1}(n) = \frac{n}{\epsilon}$$

$$y = rn \rightarrow n = \frac{y}{r} \rightarrow y = \frac{n}{r} \rightarrow f^{-1}(n) = \frac{n}{r}$$

$$\frac{\frac{1}{\epsilon} + \frac{r}{\epsilon}}{r} = \frac{r}{\Lambda} \rightarrow \frac{1}{\epsilon} - \frac{r}{\Lambda} = -\frac{1}{\Lambda} \rightarrow \text{Gleichung}$$

$$\frac{1}{r} - \frac{r}{\Lambda} = \frac{1}{\Lambda} \rightarrow \text{Gleichung}$$

$$\rightarrow f^{-1}(n) = \frac{r}{\Lambda} n - \frac{1}{\Lambda} |n|$$

$$\frac{a}{b} \rightarrow \boxed{ab = -\frac{r}{4\epsilon}} \quad \checkmark$$

(r) (yollte)

$$f(n) = \frac{rn + \epsilon}{n + m} \quad (r, -1) \quad f \circ f^{-1}(n) = f^{-1}(n)$$

$$(r, -1) \rightarrow \frac{y + \epsilon}{r + m} = -1 \rightarrow r + m = -1 \rightarrow \underline{m = -r} \rightarrow f(n) = \frac{rn + \epsilon}{n - r}$$

$$\rightarrow a + d = 0 \rightarrow f(n) = f^{-1}(n)$$

$$\rightarrow f^{-1}(n) = \frac{rn + \epsilon}{n - r} \rightarrow f \circ f^{-1}(n) = n + \frac{rn + \epsilon}{n - r}$$

$$= \frac{n^2 - rn + rn + \epsilon}{n - r} = \frac{n^2 + \epsilon}{n - r}$$

Wiederholung \*

تأیید

$$\frac{n^2 + \epsilon}{n - r} = n \rightarrow n^2 + \epsilon = n^2 - rn \rightarrow -rn = \epsilon \rightarrow \boxed{n = -\frac{\epsilon}{r}} \checkmark$$

$$f(r - rn) = r - g\left(\frac{n}{r}\right) \quad f g^{-1}(\epsilon) + f^{-1}(-r) = ? \quad (2) \text{ سوال 1}$$

$$\left| n = \frac{r - n}{r} \right| \rightarrow f\left(r - r\left(\frac{r - n}{r}\right)\right) = r - g\left(\frac{r - n}{\epsilon}\right)$$

$$\Rightarrow f(n) = r - g\left(\frac{r - n}{\epsilon}\right)$$

$$f^{-1}(r) = t \rightarrow f(t) = -r \rightarrow -r = r - g\left(\frac{r - t}{\epsilon}\right) \Rightarrow g\left(\frac{r - t}{\epsilon}\right) = \epsilon$$

$$\Rightarrow g^{-1}(\epsilon) = \frac{r - t}{\epsilon}$$

$$f g^{-1}(\epsilon) + f^{-1}(-r) = \left(\epsilon \times \frac{r - t}{\epsilon}\right) + t = \boxed{r} \checkmark$$

$$y = \frac{2n - 1r}{1 - n} \xrightarrow{\text{مضروب کردن}} y = \frac{2n + 1r}{n + 1} \xrightarrow{\text{عوض کردن}} (2) \text{ سوال 9}$$

$$\frac{2(n - r) + 1r}{n - r + 1} = \frac{2n + r}{n - 1} \xrightarrow{\text{عوض کردن}} \frac{2n + r}{n - 1} - r$$

$$\Rightarrow f(n) = \frac{r n + 4}{n - 1}$$

$$y = \frac{r n + 4}{n - 1} \rightarrow f^{-1}(n) = \frac{n + 4}{n - r} \quad f(n) = f^{-1}(n)$$

$$\rightarrow \frac{r n + 4}{n - 1} = \frac{n + 4}{n - r} \rightarrow rn^2 + rn - 1r = n^2 + 2n - 4$$

$$\Rightarrow rn^2 - rn - 4 = 0$$

$$\rightarrow S = -\frac{b}{a} = \frac{r}{1} = \boxed{r} \checkmark$$

$$f(n) = n + f[n] \quad (f-g)(n) = ?$$

(سوال ۲)

$$y = n + f[n] \xrightarrow[\text{از دو طرف}]{\text{برای کلی}} [y] = [n + f[n]]$$

$$\Rightarrow [y] = \Delta[n] \rightarrow [n] = \frac{[y]}{\Delta}$$

$$y = n + f[n] \rightarrow y = n + \left(f \times \frac{[y]}{\Delta}\right) \rightarrow n = y - \frac{f[y]}{\Delta}$$

$$\rightarrow y = n - \frac{f[n]}{\Delta} = f^{-1}(n) = g(n)$$

$$\rightarrow f(n) - g(n) = n + f[n] - n + \frac{f[n]}{\Delta} = \boxed{\frac{f[n]}{\Delta}} \quad \checkmark$$