

جوازهم B

17/8

کمیای امیری نیا

① $D_f = [-\varepsilon, 2]$

$-\varepsilon \leq 3n-2 \leq 2 \rightarrow -1 \leq 3n \leq 4 \rightarrow -\frac{1}{3} \leq n \leq \frac{4}{3} \rightarrow D = \left[-\frac{1}{3}, \frac{4}{3}\right]$

$D = [-\varepsilon, 2]$

$-\varepsilon \leq n \leq 2 \rightarrow -1 \leq 3n \leq 6 \rightarrow -1 \leq 3n-2 \leq 4-1 \rightarrow D_f = [-1, 3]$

② $y = x + \sqrt{x-2}$

۲ واحد ۲ است

$x = n-2 + \sqrt{n-2} \rightarrow \sqrt{n-2} \leq 2 \rightarrow \boxed{n \leq 10}$

$x-2 + \sqrt{x-2}$

$\sqrt{n-2} = t \rightarrow n-2 = t^2 \rightarrow n-2 = t^2+2$

راه حل یکنیم نام را مثال بدین!

$y = t^2+2+t = \left(t+\frac{1}{t}\right)^2 + \frac{y}{2} \rightarrow y - \frac{y}{2} = \left(t+\frac{1}{t}\right)^2 \rightarrow t+\frac{1}{t} = \sqrt{y-\frac{y}{2}}$

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

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

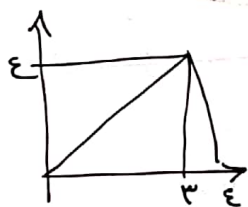
$\rightarrow f^{-1}(n) = n - \sqrt{n-\frac{y}{2}} + \frac{1}{\varepsilon} \Rightarrow n - \sqrt{n-\frac{y}{2}} + \frac{1}{\varepsilon} = n$

$\frac{1}{\varepsilon} = \sqrt{n-\frac{y}{2}} \rightarrow n - \frac{y}{2} = \frac{1}{\varepsilon^2} \rightarrow n = \frac{100+21}{16} = \frac{121}{16} = 7.5625$

$\begin{vmatrix} 1 \\ 1 \end{vmatrix}$

$\boxed{y=1}$

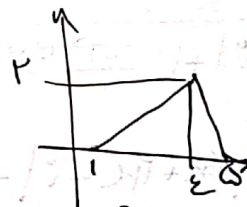
③



$2f(x+1)$



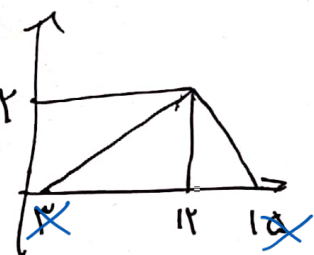
$f(x+1)$



$f(x)$

$S = \frac{12 \times 2}{2} = 12$

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$f(x)$

$0 \leq x \leq 2 \rightarrow 1 \leq x+1 \leq 3$



③ $AC(x, y) \rightarrow S(x) = -x$

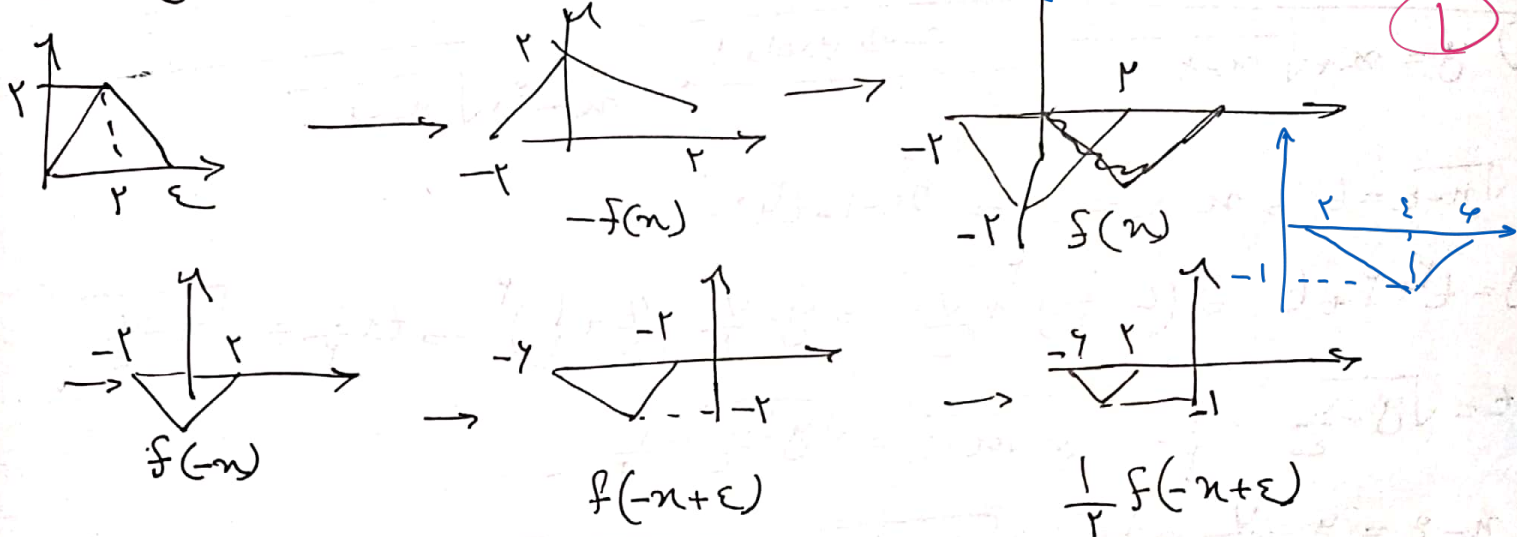
(1)

$x' = 2x + a \rightarrow x' = \varepsilon + a$
 $y' = 2y + a \rightarrow y' = -\varepsilon + a$
 $\underline{a = -\varepsilon}$

④ $y = -f(x-2)$

$-2 \leq x \leq 2 \rightarrow 2 \leq \varepsilon - x \leq 4$

(1)



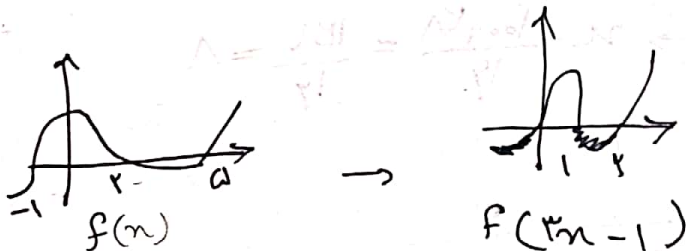
⑤ $y = \sqrt{-(x+2)f(x-1)}$

$-(x+2)f(x-1) \geq 0 \rightarrow (x+2)f(x-1) \leq 0$

$x+2 \leq 0 \rightarrow f(x-1) \geq 0$
 $x \leq -2$

$x+2 \geq 0 \rightarrow f(x-1) \leq 0$
 $x \geq -2$

(2)



$[2, 0] \cup [1, 2]$

⑥ $y = |2x-3|+1 \xrightarrow{\text{حد واحد 3}} y = |2x+2k-3|+1$

(3)

$\xrightarrow{\text{حد واحد 3}} |2x+2k-3|-2 \xrightarrow{x=0} \varepsilon = |2k-3|-2$

$2k-3 = \varepsilon \rightarrow k = \frac{\varepsilon+3}{2}$

✓

$2k-3 = -\varepsilon \rightarrow k = \frac{-\varepsilon+3}{2}$

در امتحان نباید بایستی که غلط

است راسم بنویس!

$$f(x) = \frac{x-1}{x+1} \xrightarrow{\text{طول 3 برابر}} \frac{-x+1}{x+1} \xrightarrow{\text{طول 3 برابر}} \frac{-x}{\frac{x}{3}+1} + 1 = \frac{-x+3}{x+3} \quad (1)$$

$$k \text{ واحد به} \xrightarrow{\text{طول 3 برابر}} \frac{-x+3}{x+3} + k = \frac{x-1}{x+1} \rightarrow k = \frac{(x-1)(x+3) + (x-3)(x+1)}{(x+1)(x+3)}$$

حالت 3: $\Delta > 0$, $x < -1$
حالت 4: $\Delta > 0$, $x < -1$

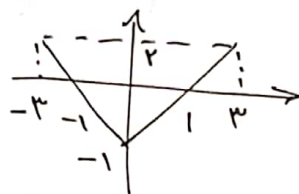
$$\rightarrow 8x^2 + 8x - 6 = k^2x + 4kx + 3k \rightarrow (8-k^2)x^2 + (8-4k)x - 6-3k = 0$$

$$\Delta = 0 \rightarrow (8-4k)^2 - 4(8-k^2)(-6-3k) = 0 \rightarrow 4k^2 - 11k + 11 = 0$$

حالت 2: $\Delta < 0$ $\rightarrow$ مصادف $\rightarrow k=3 \rightarrow \checkmark$

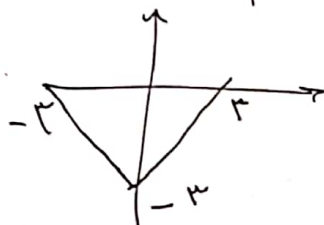
ریشه دارد سه ک یا ضمه فنی شود

$$(9) y = -f\left(\frac{x}{3}\right) + 2$$



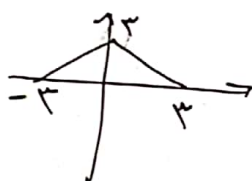
2 واحد به

$$\xrightarrow{\text{مبدا}} y = -f\left(\frac{x}{3}\right)$$



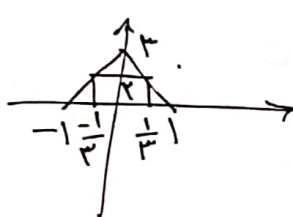
مبدا

$$\xrightarrow{\text{مبدا}} y = f\left(\frac{x}{3}\right)$$



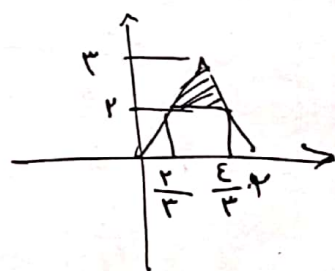
طول 1/3 برابر

$$\xrightarrow{\text{طول 1/3 برابر}} y = f(x)$$



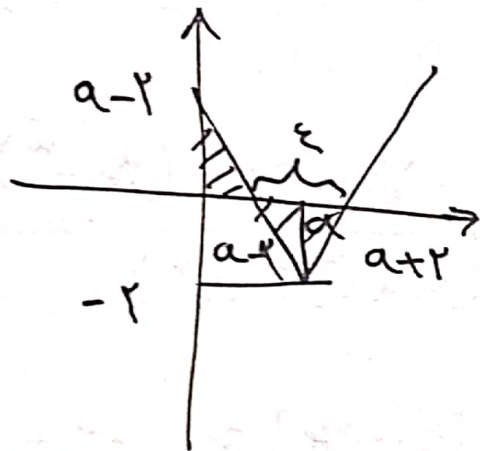
1 واحد به

$$\xrightarrow{\text{1 واحد به}} y = f(x-1)$$



$$S = \frac{\left(\frac{4}{3} - \frac{2}{3}\right) \times 1}{2} = \left(\frac{1}{3}\right)$$

10)



$$S_1 = \frac{(a-r)^2}{2}, \quad S_2 = \frac{(\epsilon \times r)}{2} \approx \epsilon$$

$$\epsilon + S_1 = \frac{a}{r} \rightarrow S_1 = \frac{1}{r}$$

$$(a-r)^2 = 1 \rightarrow a-r = \pm 1 \quad \begin{array}{l} \text{است غیر قابل قبول} \\ \text{داده شود} \end{array} \rightarrow a-r=1 \rightarrow a=2$$

$$f\left(\frac{1}{a}\right) = f\left(\frac{1}{2}\right) = \left|\frac{1}{2} - 2\right| - r = \frac{1}{2} - \frac{1}{2} = \frac{1}{2}$$