

12, 2

$$\rightarrow \frac{1}{4} \times |9 \times P|$$

من انساب واصل انساب

$$\frac{1}{4} \times \frac{1}{2} \times \frac{1}{2} = \frac{1}{14} \checkmark$$

$f f^{-1} = \delta_P$ من انساب واصل انساب

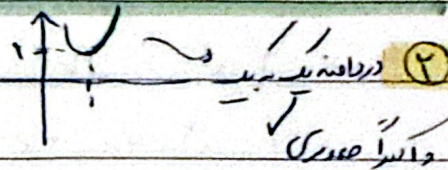
$$2y = 2u - 1$$

$$2y = 0 - 1 \quad y = -\frac{1}{4}$$

$$0 = 2u - 1 \rightarrow u = \frac{1}{2}$$

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

$$\frac{-b}{2a} = \frac{2}{2} = 1 \rightarrow R = (2, +\infty)$$



$$x = y^2 - 2y + 3 \rightarrow x - 2 = y^2 - 2y + 1$$

$$x - 2 = (y - 1)^2$$

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

$$(2) \quad y = x^2 - 2x + 3 \quad x \in (2, +\infty) \Rightarrow R_f = (4, +\infty)$$

$$\frac{2}{2} = 1 \quad x^2 - 2x(2) + 3$$

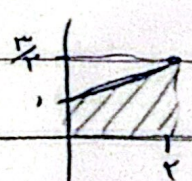
$$x = y^2 - 2y + 3 \rightarrow x - 2 = y^2 - 2y + 1 \quad x - 2 = (y - 1)^2$$

$$y = \sqrt{x - 2} + 1 \quad x \geq 4 \checkmark$$

$$f(u) = 2u - \sqrt{14} \varepsilon u(2 - u) \quad (2u - 4)^2$$

$$f(u) = 2u - (2u - 4)$$

$$f(u) = 4u - 4$$



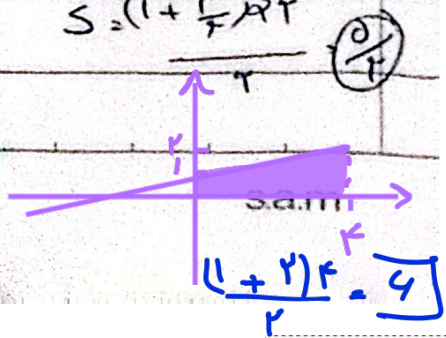
$$u \leq 2 \Rightarrow f^{-1}(u) = \frac{u + 4}{4} = \frac{1}{4}u + 1 \checkmark$$

بجمله اول و ثن قسم بر 4

اندر 4 بر 4

$$D_{f^{-1}} = R_f = (-\infty, 4]$$

این بردش!



$y = \frac{x}{\sqrt{x^2 - a}}$ بمعينه (1) (ع)
 $\frac{1}{\sqrt{x^2 - a}}$ بمعينه (2) (ع)
 $\frac{1}{\sqrt{x^2 - a}} = \frac{y}{x}$ بمعينه (3) (ع)
 $x = \frac{y}{\sqrt{y^2 - a}}$ بمعينه (4) (ع)
 $x^2 = \frac{y^2}{y^2 - a} \rightarrow y^2 x^2 - a x^2 = y^2$ بمعينه (5) (ع)
 $y^2 (x^2 - 1) = a x^2$

$g(x) = \begin{cases} x^2 - \varepsilon x + k & x \geq r \\ -x^2 + 4x + 3k & x < r \end{cases}$ بمعينه (1) (ع)
 $-r + 1r + 3k \leq r - \varepsilon + k$ بمعينه (2) (ع)
 $\checkmark k \leq -4 \quad \checkmark k \leq -1r$

$|y| = 3|x| + |x|$ بمعينه (1) (ع)
 $|y| = \varepsilon |x|$ بمعينه (2) (ع)

از دو طرف قدر مطلق را حذف می‌کنیم
 (3) (ع)

$y = 3x + |x| \rightarrow x = 3y + |y|$ بمعينه (1) (ع)
 $x = 3y + |y|$ بمعينه (2) (ع)
 $y = \frac{x - \varepsilon |x|}{3}$

$a = \frac{1}{3}, b = -\frac{\varepsilon}{3}$ بمعينه (3) (ع)

$f(f^{-1}(u)) + f^{-1}(u) \geq k$ بمعينه (1) (ع)
 $f^{-1}(u) = \dots$ بمعينه (2) (ع)
 $L \rightarrow f(u) = p$

$\frac{xu + \varepsilon}{x + m} \rightarrow -10 = \frac{10}{x + m} \rightarrow m = -r$ بمعينه (1) (ع)
 $f(-), \frac{f}{-r}$ بمعينه (2) (ع)

0 (A)

$$f(r, u) = t \xrightarrow[\text{از طرف } f^{-1}]{\text{از طرف}} r, u = f^{-1}(t) \rightarrow u = \frac{r - f^{-1}(t)}{2}$$

$$g\left(\frac{u}{2}\right) = r - t \xrightarrow[\text{از طرف } g^{-1}]{\text{از طرف}} \frac{u}{2} = g^{-1}(r - t) \rightarrow u = 2g^{-1}(r - t)$$

$$\frac{r - f^{-1}(t)}{2} = 2g^{-1}(r - t) \xrightarrow{t = -r} r - f^{-1}(-r) = 4g^{-1}(r) \quad \text{جواب} \quad \text{[3]}$$

$$y = \frac{5u - 13}{1 - u} \xrightarrow[\text{مربع کسرها]}{\text{عوض نسبت به}} y = \frac{-5u - 13}{1 + u} \xrightarrow[\text{راست}]{\text{تطبیق}} y = \frac{5u + 3}{1 + u} \quad \text{[9]} \quad \text{[2]}$$

$$y = \frac{5(u-2)+13}{(u-2)+1} \xrightarrow{\text{عوض و ساده کردن}} \frac{5u+3}{u-1} - 3 = f = \frac{2u+4}{u-1}$$

$$f^{-1}, f \text{ در } \Rightarrow \frac{2u+4}{u-1} = x \quad 2u+4 = u^2 - u \rightarrow u^2 - 3u - 4$$

$f(u) = u$ ✓ [3] = مجموع 2 و 4

[5] اول باید u رو تخمین بزنیم [15] بعد وارون کنیم

$$[y] = [u + \varepsilon[u]] \quad [y] > \omega[u] \quad [u] + \varepsilon[u]$$

$$y = u + \varepsilon[u] \xrightarrow{\text{عوض و ساده کردن}} u = y + \varepsilon[y] \Rightarrow u = y + 2 \cdot [y]$$

$$\rightarrow y = u + \frac{f[y]}{\omega} \rightarrow \omega[u] \cdot u = y - \frac{f[y]}{\omega}$$

$$y = u - 2 \cdot [u] \quad f = g(u) = u + \varepsilon[u] = u + 2[u] = 2\varepsilon[u]$$

$$\xrightarrow{\text{طرف}} y = u - \frac{f[u]}{\omega} \quad f = g = f \wedge [u]$$

sam

$$f(u) = \begin{cases} fu & u \geq 0 \\ ru & u < 0 \end{cases} \rightarrow f^{-1}(u) = \begin{cases} \frac{u}{f} & u \geq 0 \\ \frac{u}{r} & u < 0 \end{cases} \quad (9)$$

$$g(u) = \begin{cases} (a+b)u & u \geq 0 \\ (a-b)u & u < 0 \end{cases} \Rightarrow \begin{aligned} a+b &= \frac{1}{f} \\ a-b &= \frac{1}{r} \end{aligned}$$

$$a = \frac{c}{\lambda} \quad b = -\frac{1}{\lambda}$$

$$\boxed{ab = -\frac{c}{\lambda f}}$$