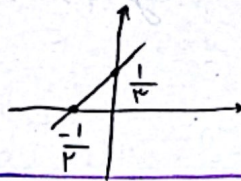


1 (ف، 20)

روانم خبر
تسليم شماره 10
مربی رياضي

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



$$S = \frac{1}{x} \times \frac{1}{x} = \frac{1}{x^2}$$

(2)

$$y = x^2 - 2x + 2 = (x-1)^2 + 1 \quad f^{-1}(x) = \sqrt{x-2} + 1 \quad D_{f^{-1}} = [2, +\infty)$$

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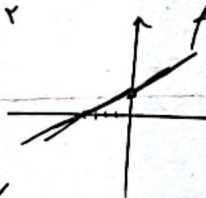
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$$f(x) = 2x - \sqrt{14 - 4x(x-1)} = 2x - |2(x-1)| = \begin{cases} 2x & x \geq 1 \\ 2x - 2 & x < 1 \end{cases}$$



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



$$S = \frac{x \times 1}{x} = 1$$

$$y = \frac{x}{\sqrt{x^2 - 1}}$$

$$\frac{x}{\sqrt{x^2 - 1}} = \frac{y}{\sqrt{y^2 - 1}}$$

$$\frac{x^2}{x^2 - 1} = \frac{y^2}{y^2 - 1}$$

$$\frac{x^2}{x^2 - 1} = \frac{y^2}{y^2 - 1}$$

$$y = \pm \sqrt{\frac{x^2}{x^2 - 1}}$$

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$$g(x) = \begin{cases} x^2 - 4x + k & x \geq 2 \\ -x^2 + 4x + k & x < 2 \end{cases}$$

$$x \geq 2 \rightarrow x = 2 \rightarrow k - 4$$

$$x < 2 \rightarrow x = 2 \rightarrow k + 4$$

$$k - 4 \geq k + 4 \rightarrow k \leq -4$$

(P)

$$f(x) = \begin{cases} x & x \geq 0 \\ x & x < 0 \end{cases} \rightarrow f^{-1}(x) = \begin{cases} \frac{x}{2} & x \geq 0 \\ \frac{x}{2} & x < 0 \end{cases}$$

$$x \geq 0 \rightarrow a + bx = (a+b)x = \frac{x}{2} \quad (a+b) = \frac{1}{2}$$

$$(a+b) = \frac{1}{2} \quad a = \frac{1}{2}$$

$$b = \frac{1}{2}$$

$$ab = \frac{1}{4}$$

$$f(x) = \frac{x+1}{x+2}$$

$$\frac{10}{x+2} = -10 \rightarrow x = -12$$

$$x = -12$$

$$f(x) = \frac{x+1}{x+2}$$

1, 20

$$y = x + f^{-1}(x) = x + \frac{x-1}{x-2}$$

$$x + \frac{x-1}{x-2} = y$$

$$x + \frac{x-1}{x-2} = y$$

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

$$f^{-1}(x) \Rightarrow x = \frac{y+1}{y-2}$$

$$y = \frac{x-1}{x-2}$$

$$\frac{1}{x+2} = -10 \rightarrow x = -12 \rightarrow f(x) = \frac{x+1}{x+2} \rightarrow f^{-1}(x) = \frac{x-1}{x-2}$$

$$f \circ f^{-1}(x) = f^{-1}(x) = x \rightarrow f^{-1}(x) = x \rightarrow x = \frac{x-1}{x-2}$$

$$f(r-x) = r - g\left(\frac{x}{r}\right)$$

$$f(r-x)t \rightarrow f^{-1}(t) = r-x \rightarrow x = \frac{r-f^{-1}(t)}{r}$$

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$$f^{-1}(-r) = m \rightarrow f(m) = -r$$

$$r-x = m$$

$$r - g\left(\frac{x}{r}\right) = -r \rightarrow g\left(\frac{x}{r}\right) = r \rightarrow g^{-1}(r) = \frac{x}{r}$$

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

$$t = -r \rightarrow f^{-1}(-r) = g^{-1}(r) = r$$

$$y = \frac{\delta x - 1^r}{1-x}$$

$$-y = \frac{-\delta x - 1^r}{1+x} \rightarrow y = \frac{\delta x + 1^r}{x+1}$$

1

$$y = \frac{\delta(x-r)+1^r}{(x-r)+1} - r = \frac{\delta x + r}{x-1} - r = \frac{\delta x + r - r x + r}{x-1} = \frac{r x + r}{x-1}$$

$$\frac{\delta x + r}{x-1} - r = \frac{\delta x - 1^r}{1-x}$$

$$V_{\alpha} r - 1^r x + V_{\alpha} 0 = n^r - r x + 1 = (x-1)^r = 0$$

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

$$[y] = f[x] + [u] \rightarrow [u] = \frac{[y]}{\Delta}$$

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$$f^{-1}(u) = x - \frac{f}{\Delta}[u] \rightarrow f - g = u + \varepsilon[u] - u + \frac{\varepsilon}{\delta}[u] = f_{\delta}[u]$$