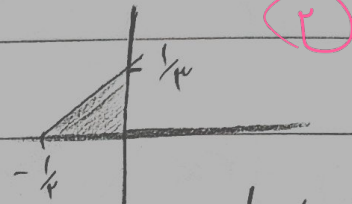


۱۸۷۵
 ۲۰۴, ۷, ۲۱
 الف
 ازل غیری

$$2y+1 = x \xrightarrow{\text{Solve}} y = \frac{2x+1}{2}$$

موردی

$$\begin{cases} x=0 \rightarrow y = \frac{1}{2} \\ y=0 \rightarrow 2x+1=0 \rightarrow x = -\frac{1}{2} \end{cases}$$



$$S = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$$

(الف) $y = \frac{2x+1}{2}$ $D_y \in [1, +\infty)$
 $R_y \in [2, +\infty)$

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

$$\Rightarrow y = \pm \sqrt{x-1} + 1, D_y \in [2, +\infty)$$

(ب) $y = \frac{2x+1}{2}$ $D_y \in [2, +\infty)$
 $R_y \in [4, +\infty)$

$$y^{-1} \xrightarrow{\text{در دو طرف با ۲ ضرب}} 1 + \sqrt{x-1}, D_{y^{-1}} \in [4, +\infty)$$

$$f(x) = 2x - \sqrt{14-14x+7x^2} = 2x - \sqrt{7(x-1)^2}$$

$$= 2x - |2(x-1)| \quad f(m) = f(x-1) \quad f(m) = f$$

$$f^{-1}(x) = \frac{x+f}{2} = \frac{x}{2} + 1 \Rightarrow x-1 \Rightarrow y=1 \Rightarrow x=1 \Rightarrow y=0$$

$$S = \frac{x_1+x_2}{2} h = \frac{1+1}{2} = 1$$

موردی

$$x = \frac{y}{\sqrt{y^2-5}} \Rightarrow y = x \sqrt{y^2-5} \Rightarrow y^2 = x^2 (y^2-5)$$

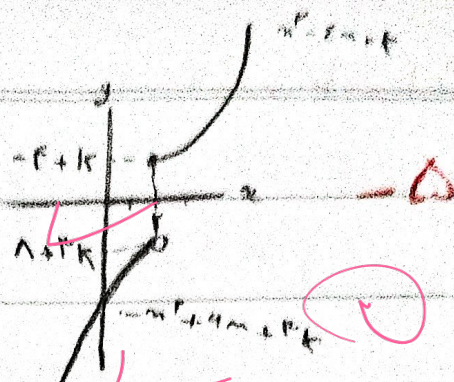
$$y^2 - x^2 y^2 = -5x^2 \Rightarrow y^2 (1-x^2) = -5x^2$$

$$y = \pm \sqrt{\frac{5x^2}{x^2-1}}, |x| > 1$$

Scanned

$$1 + 13K \leq -F + K \rightarrow 13K \leq -1 - F$$

$$K \leq -\frac{1+F}{13}$$



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

$$\Rightarrow g(x) = f^{-1}(x) = \frac{1}{a}x - \frac{1}{b}|x| \Rightarrow ab = \frac{1}{a} \times \frac{-1}{a} = \frac{-1}{a^2}$$

$$(r, -1) \xrightarrow{f^{-1}} -1 = \frac{4+F}{r} \rightarrow m = -1 \rightarrow f(x) = \frac{rx+F}{x-r}$$

$$x = \frac{-y-F}{y-r} = \frac{y+F}{y-r} \rightarrow f^{-1}(x) = \frac{rx+F}{x-r}$$

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

$$\frac{x+F}{x-r} + x = x \Rightarrow \frac{x+F}{x-r} = 0 \Rightarrow x = -F$$

$$f^{-1}(n) + f \circ f^{-1}(n) = n \rightarrow a+d \rightarrow f^{-1}(n) = n \rightarrow n = -\frac{F}{r}$$

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

$$g(x) = r - F(r - rx) \xrightarrow{y} r - Frc = f^{-1}(r-y) \Rightarrow g^{-1}(y) = \frac{r-f^{-1}(y)}{F}$$

$$g^{-1}(r) = \frac{r-f^{-1}(r)}{F} \Rightarrow f^{-1}(-r) + \frac{r-f^{-1}(-r)}{F} = r \Rightarrow f^{-1}(-r) = \frac{r}{2}$$

$$f^{-1}(r) : a \rightarrow f(a) = -r \rightarrow g\left(\frac{r}{r}\right) = r \Rightarrow g^{-1}(r) = \frac{1}{F} \Rightarrow y = 1 + \frac{1}{r}$$

$$y = \frac{ax-13}{1-x} \xrightarrow{y=x} y = \frac{+ax+13}{1+x}$$

$$\frac{a(x-r)+13}{1+(x-r)} = \frac{ax+13}{x-1} \xrightarrow{an+13}{an+13} \Rightarrow \frac{an+13}{n-1} = \frac{13(n-1)}{n-1}$$

$$= \frac{4rx+4}{x-1} = f(x) \Rightarrow f^{-1}(x) = \frac{x+4}{2x-1}$$

$$f = f^{-1} \Rightarrow \frac{m+4}{x-1} = \frac{x+4}{x-2} \Rightarrow (x-1)(x+4) = (x-2)(m+4)$$

$$\Rightarrow x^2 - 1x - 4 = 0 \Rightarrow \text{مجموع } x = -\frac{b}{a} = -\frac{-1}{1} = 1$$

$$y = x + f(x) \xrightarrow{\text{برابر کنیم}} [y] = \delta[x] \xrightarrow{\text{کسر}} y = \frac{[x]}{\omega} - 10$$

$$f(n) = \delta[n] - \frac{[n]}{\delta} = \frac{\delta \varepsilon[n]}{\delta}$$

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

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

$$t = -r \rightarrow w - f^{-1}(-r) = g^{-1}(z) = 0 \rightarrow f^{-1}(-r) + r g^{-1}(z) = 0 \quad \textcircled{2}$$