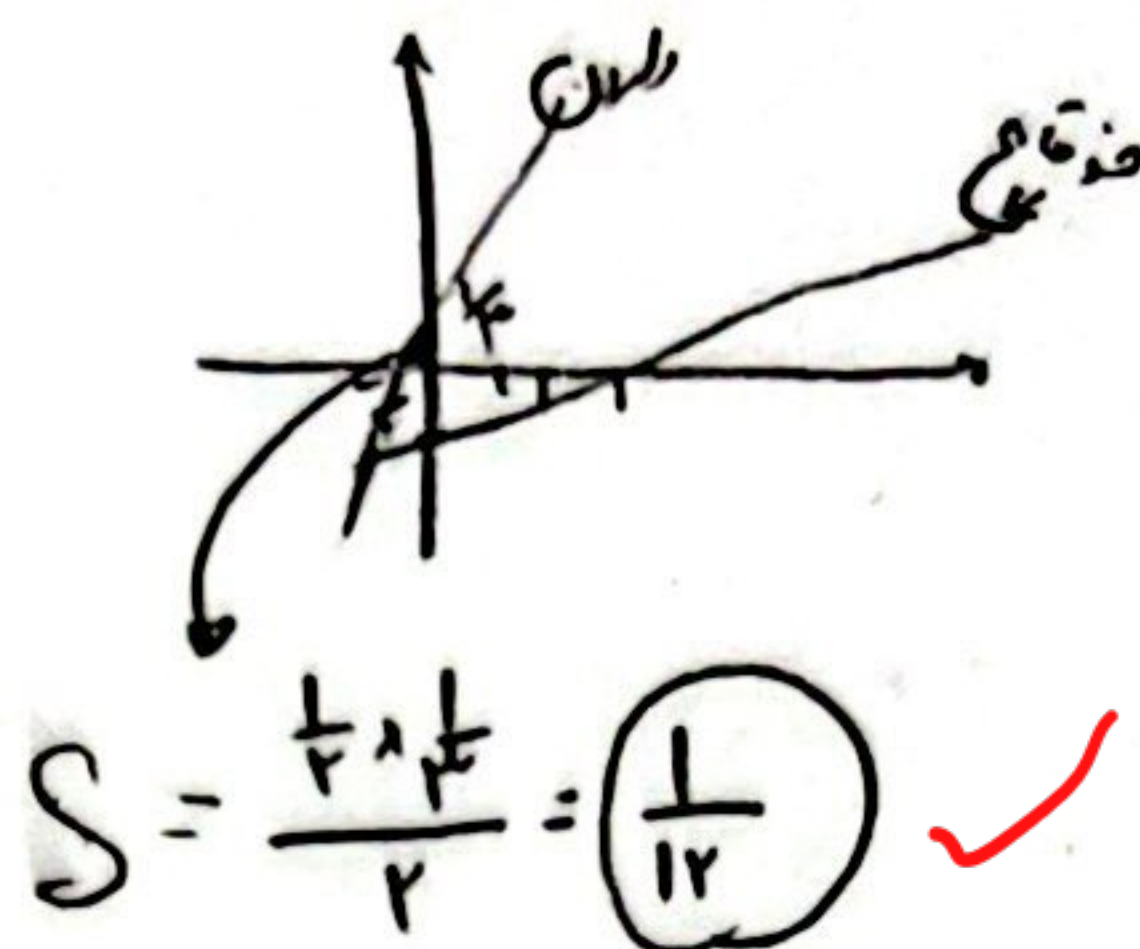


$$y = \frac{3x-1}{2}$$

$$2x = 3y - 1$$

$$3y = 2x + 1 \quad y = \frac{2x+1}{3}$$



$$S = \frac{\frac{1}{2} \times \frac{1}{2}}{2} = \left(\frac{1}{12}\right) \checkmark$$

۲

۱) $\frac{-b}{2a} = 1 \quad y = 1 - 2 + 3 = 2$ $y = (x-1)^2 + 2$
 $\hookrightarrow x = 2 = (y-1)^2 \quad y = 1 \pm \sqrt{x-2}$
 $D_{f^{-1}} = R_f = [2, +\infty)$ $\rightarrow$ ضابطه تابع معکوس $\rightarrow y = 1 + \sqrt{x-2} \checkmark$
 ۲) $9 - 4 + 3 = 8$ $y = 1 + \sqrt{x-2} \checkmark$
 $D_{f^{-1}} = R_f = [4, +\infty)$ $\checkmark$

۲

$$y = 2x - \sqrt{14 - 8yx + 4x^2} = 2x - (2x - 6)$$

$$f(x) = 8x - 6$$

$$\hookrightarrow 8x = 6y - 6 \quad y = \frac{x+6}{6} = \frac{x}{6} + 1 \checkmark$$

$$D_{f^{-1}} = R_f = (-\infty, 6]$$

$$S = \frac{(1+2) \times 6}{2} = 9$$

۱

حل این سوال به روش مشتق گیری و با استفاده از مشتق

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

$$y = \frac{x_1}{\sqrt{x_1^2 - a}}$$

$$y = \frac{x_2}{\sqrt{x_2^2 - a}}$$

$$\frac{x_1}{\sqrt{x_1^2 - a}} = \frac{x_2}{\sqrt{x_2^2 - a}}$$

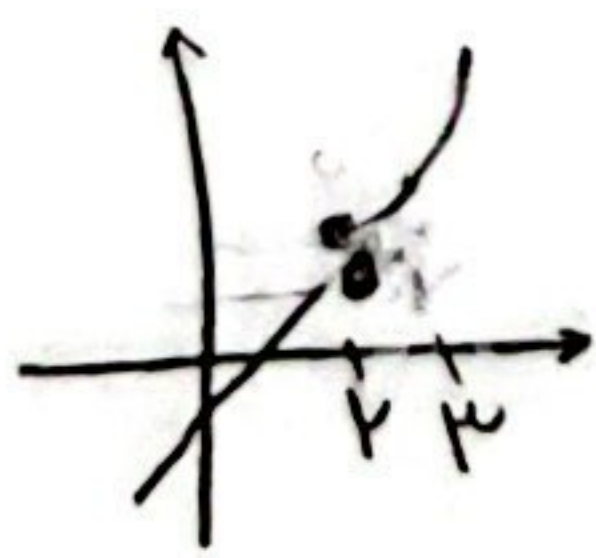
$$\frac{x_1}{\sqrt{x_1^2 - a}} = \frac{x_2}{\sqrt{x_2^2 - a}}$$

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

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

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

۲



$$\frac{-b}{2a} = \frac{K}{2} = 2$$

$$\frac{-b}{2a} = 2$$

$$K - 1 + K = -K + K$$

$$-K + 1 + K = 1 + 2K$$

$$-K + K \geq 1 + 2K$$

$$-K \geq 2K \quad \boxed{-4 \geq K}$$

$$-4 \geq K \checkmark$$

۲

$$y = kx + |x| \xrightarrow{x > 0} y = kx \xrightarrow{\text{دور}} y = \frac{1}{k}x = \frac{x}{k} \xrightarrow{\text{مساوی}} \frac{x}{k} = \frac{y}{k} \Rightarrow y = kx$$

$$y = kx + |x| \xrightarrow{x < 0} y = rx \xrightarrow{\text{دور}} y = \frac{1}{r}x$$

$$y = \frac{k}{\lambda}x - \frac{1}{\lambda}|x|$$

$$ab = \left(\frac{-k}{4\epsilon} \right) \checkmark$$

$$y = ax + b|x|$$

$$\frac{k}{r}x = \frac{y}{r} \Rightarrow y = kx$$

$$\frac{k}{\lambda}x + bx = \frac{1}{\lambda}x$$

$$b = -\frac{1}{\lambda} \checkmark$$

$$f(x) = \frac{kx + r}{x + m}$$

$$\frac{4+r}{k+m} = -1 \Rightarrow m = -r \checkmark$$

$$\rightarrow x = -\frac{k}{r}$$

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

$$f^{-1}(x) = 0$$

$$f(0) = x$$

$$\frac{k}{-r} = x \checkmark$$

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

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

$$g^{-1}(r - a) = \frac{x}{r}$$

$$f(r - rx) = a$$

$$f^{-1}(a) = r - rx$$

$$x = rg^{-1}(r - a)$$

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

$$x = f^{-1}(a) - r = -rg^{-1}(r - a)$$

$$a = -r$$

$$f^{-1}(-r) - r = -rg^{-1}(\epsilon)$$

$$f^{-1}(-r) + rg^{-1}(\epsilon) \checkmark$$

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

$$-x^2 + vx - 9 = \frac{rx + y}{x-1} \Rightarrow -x^2 + vx - 9 = \frac{rx + y}{x-1} \Rightarrow -x^2 + vx - 9 = \frac{rx + y}{x-1}$$

$$\frac{+x+9}{x-1} = \frac{rx+y}{x-1} \rightarrow rx+y=0 \rightarrow y = -\frac{rx}{r}$$

$$y = -\frac{rx}{r} = -x$$

$$x = y + f[y] \frac{[x]}{a} \rightarrow x - \frac{f[x]}{a} = y \Rightarrow g(x)$$

$$[x] = [y + \epsilon[y]] = a[y]$$

$$[y] = \frac{[x]}{a} \xrightarrow{\text{نوع } y} [u] = \frac{[y]}{a}$$

$$(f-g)(x) = x + f[x] - x + \frac{g[x]}{a}$$

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

$$\text{حالا می بینیم} \rightarrow y = u - \frac{f}{a}[u] \Rightarrow (f-g)(u) = f, \frac{f}{a}[u]$$