

$$y = x + [x] \quad x = y + [y]$$

$$[y] = r(x) \quad [x] = r(y)$$

$$[y] = \frac{r}{[x]}$$

$$\frac{r}{[x]} = r(x)$$

$$\frac{1}{[x]} = [x]$$

$$[x] = 1 \quad [y] = -1$$

$$x = r(x) - \frac{r}{r}$$

$$x = 1/5$$

$$f \circ f(\omega - \sqrt{4})$$

$$= f\left(\frac{5a - \sqrt{4}a + r}{r(\omega - \sqrt{4}) + -a}\right)$$

$$= \frac{5a - \sqrt{4}a + r}{r\omega - r\sqrt{4} - a}$$

$$rx = -b$$

$$x = \frac{-b}{r} \quad a = \frac{a}{r}$$

$$-\frac{b}{r} = \frac{a}{r} \quad \boxed{a = -b}$$

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

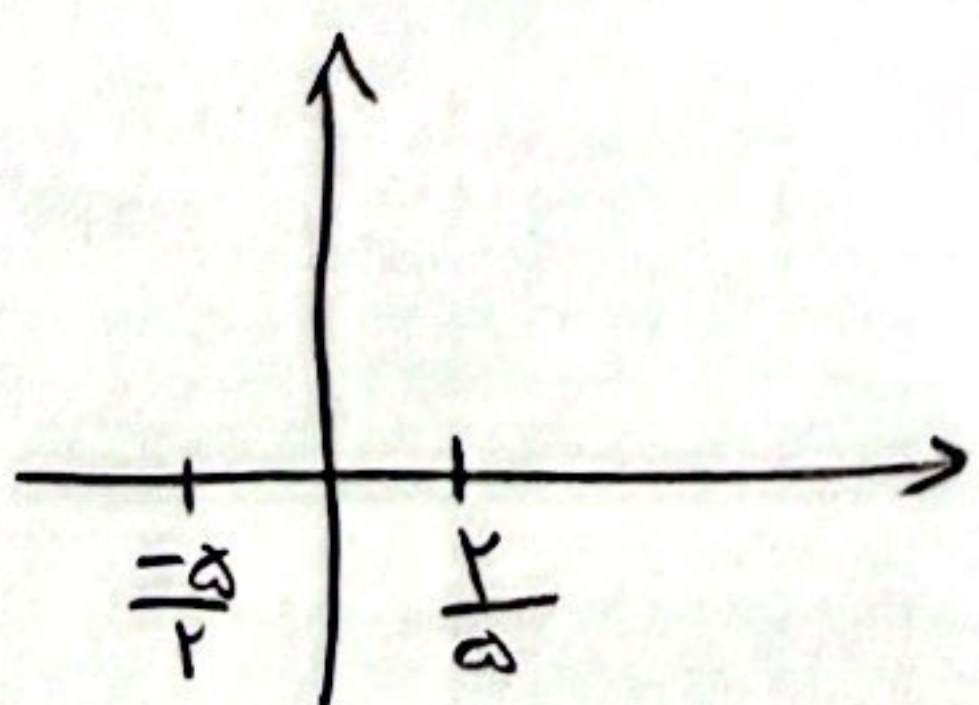
$$(m+r)x + x^2 = mx + r$$

$$x^2 - r + rx = 0 \rightarrow x + B = \frac{1}{a} \quad (-1)$$

$$\frac{1}{x} + \frac{1}{B} = \frac{x+B}{xB} = \frac{-1}{-r} \quad \left(\frac{1}{r}\right)$$

$$xB = \frac{r}{a} = r$$

$$y = |rx + \omega| - |\omega x - r|$$



$$\frac{-\sqrt{4}}{r} \quad \frac{r}{r}$$

$$-rx - \omega + \omega x + r = \omega x - r - \omega x + r$$

$$= \omega x - r = \omega x + r$$

$$\rightarrow \left(\frac{r}{a}, +\infty\right)$$

$$y = -rx + r$$

$$y = -rx + r$$

$$x = \frac{y+r}{r}$$

$$y = -x + r$$

$$\boxed{y = \frac{-x}{r} + \frac{r}{r}}$$

$$f(rx) = a$$

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

$$g(x) = xa - 1$$

$$g^{-1}(ra - 1) = x$$

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

$$ra - 1 = x$$

$$a = \frac{1+x}{r}$$

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

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

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

$$\frac{r}{r} \quad \frac{-b}{r} \quad \left(\frac{1}{r}\right)$$

$$x = y + r\sqrt{y} \rightarrow x = (\sqrt{y} + 1)^2 - 1$$

$$D_{f^{-1}} = R_f = (0, +\infty)$$

$$x+1 = (\sqrt{y} + 1)^2$$

$$\sqrt{x+1} = \sqrt{y} + 1$$

$$\sqrt{x+1} - 1 = \sqrt{y} \rightarrow y = x+1 + 1 - 2\sqrt{x+1} = x+2-2\sqrt{x+1} \rightarrow [0, +\infty)$$

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$$x = x - 1 + r^x$$

$$r^x = 1$$

$$(x=0)$$

در این نقطه

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توجه: f^{-1} در $x=0$ تعریف شده است

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

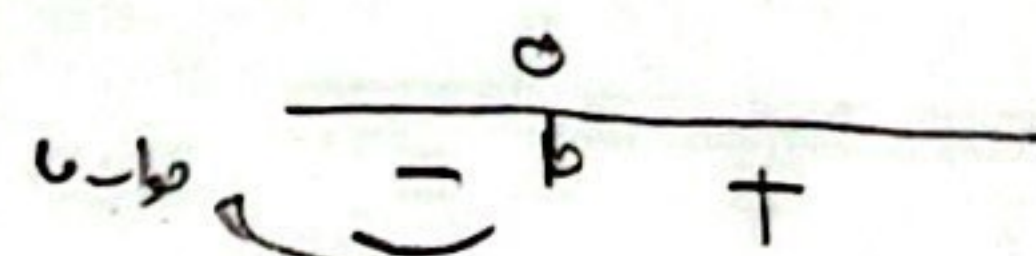
$$f^{-1}(x) \geq x \quad f^{-1}(f(x)) \quad y(y^2 + \epsilon)$$

$$x \geq f(x) \rightarrow x \geq x^2 + \epsilon x$$

~~توجه: f در $x=0$ تعریف شده است~~

اعداد صحیح [تعداد 0]

$$x = (-\infty, 0]$$



$$0 \geq x^2 + \epsilon x$$

$$0 \geq x(x^2 + \epsilon)$$

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$$y = x + \sqrt{x+1} \rightarrow g(x) = f^{-1}(x+1)$$

$$f^{-1}(x) = -y\sqrt{y+\epsilon} \quad g(x) = x - \epsilon$$

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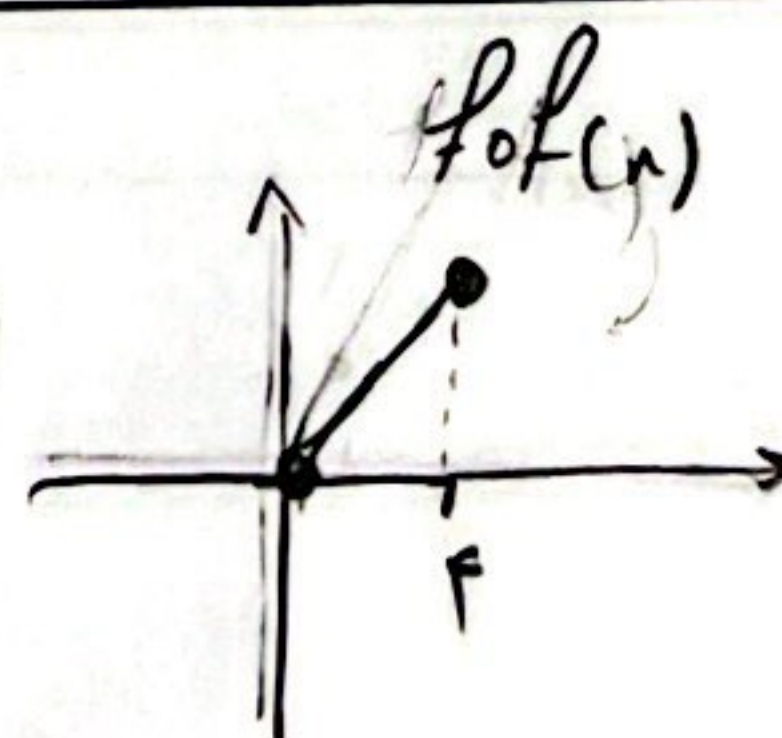
$$\sqrt{y} = r - \sqrt{x}$$

$$y = r^2 + x - 2r\sqrt{x}$$

$$r\sqrt{x} \geq 0 \quad \sqrt{x} \leq r \quad 0 \leq x \leq r^2$$

$$y = (r - \sqrt{x})^2$$

$$f \circ f(x) = \frac{(r - \sqrt{x})^2}{(r - \sqrt{x})^2} = x$$



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