

سوال ۱

$$f(n) = n + \lceil n \rceil$$

$$f(n) = n + \lceil n \rceil \xrightarrow{\lceil \cdot \rceil} \lceil y \rceil = \lceil n + \lceil n \rceil \rceil \rightarrow \lceil n \rceil = \lceil y \rceil$$

$$f^{-1} \rightarrow n + \lceil y \rceil \rightarrow y = n + \lceil n \rceil = f^{-1}(n)$$

$$n - \lceil n \rceil = n - \lceil n \rceil \rightarrow \lceil n \rceil = -\lceil n \rceil \quad \lceil n \rceil = 0$$

$\lceil n \rceil = 0$ در صورتی که n صحیح باشد

$$f^{-1} \circ f^{-1}(n) = \lceil n - \frac{n}{2} \rceil \rightarrow n = \frac{n}{2}$$

حاصل نمی شود در نتیجه

$$n \in \mathbb{Z} \rightarrow \{ \lceil k \rceil + \lceil k+1 \rceil \mid k \in \mathbb{Z} \}$$

بنا بر این / در نتیجه

$$y = \frac{ax + r}{cx + b}$$

مقابلہ $-\frac{b}{c}$
مقابلہ $\frac{a}{c}$

سوال ۲

$$y = \frac{-bx + r}{cx + b} \quad \frac{b+b=0}{cx+b} \quad f(x) = f^{-1}(x)$$

$$f \circ f(x - r) = x - r$$

$$\frac{mx + r}{x + m + r} = x \rightarrow x^2 + mx + rx = mx + r$$

سوال ۳

$$x^2 + rx + r = 0 \rightarrow S = -\frac{b}{a} = (-r)$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = -\frac{r}{-r} = 1$$

$$r = \frac{c}{a} = (-r)$$

$$y = \sqrt{(rx + v)^2} - \sqrt{(cx - r)^2}$$

سوال ۴

$$|rx + v| - |cx - r|$$

$$-\frac{r}{c} \quad \left(\infty + \frac{r}{c} \right)$$

$-\frac{r}{c}$	$\frac{r}{c}$
$-rx - v + cx - r$ $rx - v$	$rx + v + cx - r$ $rx + r$
	$rx + v - cx + r$ $-rx + v$ Upr.

$$y = rx + v \rightarrow -ry = x - v \rightarrow y = \frac{-x + v}{r}$$

$$y = -x + \sqrt{x + c} \quad x > -c$$

9.11.16

$$\hookrightarrow (y+x)^2 = \sqrt{x+c} \rightarrow (y+x)^2 = \left(\sqrt{x+c}\right)^2$$

$$x^2 + y^2 + 2xy = x + c \quad y^2 + 2xy + x^2 - x - c = 0$$

$$y^2 + (2x-1)y + (x^2 - x - c) = 0 \rightarrow y = \frac{-(2x-1) \pm \sqrt{(2x-1)^2 - 4(x^2 - x - c)}}{2}$$

$$4x^2 - 4x + 1 - 4x^2 + 4x + 4c = 1 + 4c$$

$$y = \frac{-2x+1 \pm \sqrt{1+4c}}{2}$$

$$y = \frac{-2(x+c)+1 \pm \sqrt{1+4c}}{2}$$

$$y = \frac{-2x-2c+1 \pm \sqrt{1+4c}}{2} = -x-c + \frac{1 \pm \sqrt{1+4c}}{2}$$

مقام

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

1.11.16

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

$$Df = \log f = \frac{1}{f}$$

$$K_f = \log f$$

$$Df' = K_f = \log f$$