

30/05/2021

107

۱- (الف)

D

$$\frac{-x}{y}$$

$$\rightarrow \alpha + [n] = \cancel{\alpha} - \frac{1}{2} [n]$$

$$y = 2x$$

3

١

3

$\frac{1}{2} = 0.5$

$\frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2} \rightarrow \frac{1}{2}$
 $\frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2} \rightarrow \frac{1}{2}$
 $\frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2} \rightarrow \frac{1}{2}, \frac{1}{2} \rightarrow \frac{1}{2}$

✓

⑦

$a = -b \Rightarrow a + b = 0$
واربعين في محور y ماضية



۴- اسرار و اسرار

②

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

سید محمد

$$y = \sqrt{(2x+3)^2} - \sqrt{(3x-2)^2}$$

$$= |2x+3| - |3x-2|$$

$2x+3=$
 $3x-2=$
 $x=-5$
 $x=2$

$$Df^{-1} = Rf$$

(2) - 1

$x \geq 0$
 $-2x-5 \leq -2 \rightarrow -2x+3 \leq 0, 1$
 $y = -2x+3$
 $x-3 = -2y$
 $\frac{x-3}{-2} = y \rightarrow x \leq \frac{19}{2} \checkmark$

$-2, 3$
 $2x+3-3x-2 = -x+1$
 $-x+1 = y$
 $x = 1-y$

$$g(x) = 2f(3x) - 1 = t \rightarrow g(x) = t$$

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

(2) - 2

$$2f(3x) - 1 = t$$

$$2f(3x) = t+1 \rightarrow f(3x) = \frac{t+1}{2} \rightarrow 3x = f^{-1}\left(\frac{t+1}{2}\right)$$

$$g^{-1}(t) = \frac{f^{-1}\left(\frac{t+1}{2}\right)}{3} \Rightarrow g^{-1}(x) = \frac{1}{3} f^{-1}\left(\frac{x+1}{2}\right) + 0$$

$\downarrow$ a c d

$$\frac{ac+d}{rb} = \frac{\frac{1}{3} + 0}{\frac{1}{2}} = \frac{2}{3} \checkmark$$

$$y = x + 2\sqrt{x}$$

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

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

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

$$\sqrt{y+1}-1 = \sqrt{x} \rightarrow y+1+1-2\sqrt{y+1} = x$$

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

(2) - 3

$$Df^{-1} = Rf \Rightarrow Rf = [0, +\infty) \checkmark$$

تابع اکسپانسیو است برای بررسی اینکه با وارون حقیقتا برقرار دارد یا نه می‌توانیم

(2)

$$y = x - 1 + 2^x$$

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

$$2^x = 1 \Rightarrow x = 0 \checkmark$$

حقیقتا

$$f(x) = x^2 + kx \rightarrow \text{Quadratic}$$

$$\sqrt{x^{-1}(x) - x} \rightarrow D = ?$$

(1) - 1

$$f^{-1}(x) - x \geq x$$

$$x \geq f(x) \\ x \geq x^2 + kx \Rightarrow x(x^2 + kx) \leq 0$$

لے کے درجہ اولیٰ

$$y = -x + \sqrt{x+k} \rightarrow x = -y + \sqrt{y+k}$$

(2)

وہی مسئلہ

اول مسئلہ پر توجہ دینا

دراصل $x \in [0, 1]$ میں

$$y+k = t \rightarrow t-1 = -t + \sqrt{t}$$

عرص

$$y = x - x^2 \\ y+x = x^2 \\ x+x^2 = y$$

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

$$y+k = 1 \rightarrow y = -x^2 \\ x=0 \\ y+k = 1 \rightarrow y = -\frac{1}{4}$$

$$t = x^2 \in [0, 1] \\ x \in [-1, 1] \rightarrow t = \frac{1}{4} \pm \sqrt{\frac{1}{4} - y}$$

$$\sqrt{x+k} = x$$

$$Df^{-1} = Rf$$

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

$$[0, 1]$$

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

$$y = x + x - x\sqrt{x} \rightarrow x \in [0, 1]$$

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

(1) - 1

