

آرپین حاجی پور (خداوندی دست خط این معلوم! ۵۰ پ: ن: دمه قبلی سراسر مغرورین)

$f(x) = -x+1 \geq 0 \Rightarrow f(x) \geq x-1$ (۲) -۱

$\begin{matrix} 2x-1 & x \geq 1 \\ 3x+2 & x < 1 \end{matrix}$
 $\Rightarrow Df = \left[-\frac{4}{3}, +\infty \right)$

$$\frac{24x^3 + 12x^2 + 11x + 3}{(3x^2 + 2x + 1)^2} = \frac{3(1x^3 + 2x^2 + 6x + 1)}{(2x+1)^2} = \frac{3(2x+1)^3}{(2x+1)^2} = \frac{3}{2x+1}$$

$\rightarrow 2x+1 \neq 0 \Rightarrow x \neq -\frac{1}{2} \Rightarrow Df = R - \{-\frac{1}{2}\}$

$$\frac{x^3 + 2x^2 - x - 2}{x^3 + 4x^2} = \frac{x^2 + 2x - 1}{x^2 + 4x} = \frac{(x-1)(x+2)}{x(x+4)}$$

$\Rightarrow x+2 = x+C \Rightarrow C=2$
 $\Rightarrow \frac{ax+b}{x+c} = \frac{ax+2}{x+2} \Rightarrow g(x) = x+2 \xrightarrow{-1} \frac{a+2}{1+b} = \mu$
 $\Rightarrow \frac{a+2}{1+b} = \mu \Rightarrow \frac{a+2}{b-1} = 1 \Rightarrow a+2 = b-1 \Rightarrow b = a+3$
 $\Rightarrow a+3 = a+3 \Rightarrow a = 3b+1$
 $\Rightarrow b-1 = 2-a \Rightarrow a = 3b+1$
 $\Rightarrow b-1 = 2-3b-1 \Rightarrow 4b = 2 \Rightarrow b = \frac{1}{2} \Rightarrow b+c = \frac{3}{2}$

$g(x) = \frac{(x-1)(x+1)}{x^2 + ax + b} = \frac{(x+1)}{x-c} \Rightarrow (x-1)(x-c) = x^2 + ax + b$
 $\Rightarrow x^2 - (c+1)x + c = x^2 + ax + b$
 $\Rightarrow c = b, -c-1 = a \Rightarrow c = b, -b-1 = a \Rightarrow a+b+c = 2c-1 \Rightarrow c = \frac{3}{2}$

$f(x+1) = (x+2)^3 f(x) = x^3 - 3x^2 + 6x - 8$
 $f(-x-1) = (-x-2)^3 f(-x) = -x^3 - 3x^2 - 6x - 8$

$$\mu = 1 - \sqrt{x} \rightarrow \boxed{x = -1} \rightarrow \sqrt[3]{x+1} \rightarrow -1+1 = 0 \Rightarrow \boxed{1+\sqrt{x} = 0} \quad (r) - 9$$

$$-1 = 1 - \sqrt{x} \rightarrow x = 1 \rightarrow \sqrt{x} \rightarrow \sqrt{1} = 1$$

$$x + \sqrt{x} = 9 \Rightarrow x = 7 \Rightarrow (7)^{\frac{1}{2}} + (7)^{\frac{1}{2}} = 2\sqrt{7} + 1\sqrt{7} = 3\sqrt{7} \quad (r) - 11$$

$x \xrightarrow{\frac{1}{2}} \sqrt{x}$

$$\sqrt[3]{(\sqrt{x-3a} + k - 1)} - (\sqrt{b-x} + \sqrt[3]{k}) = k \Rightarrow \sqrt[3]{k} - 1 - \sqrt[3]{k} = k \Rightarrow -1 = k \quad (r) - 10$$

$x=1$ قابل استبدال

$$\begin{aligned} b - \sqrt{x} &\geq 0 \Rightarrow b - \sqrt{1} \geq 0 \Rightarrow b - 1 \geq 0 \Rightarrow b \geq 1 \Rightarrow \boxed{b = 1} \\ \sqrt{x} - 3a &\geq 0 \Rightarrow \sqrt{1} - 3a \geq 0 \Rightarrow 1 - 3a \geq 0 \Rightarrow 1 \geq 3a \Rightarrow a \leq \frac{1}{3} \Rightarrow \boxed{a = \frac{1}{3}} \end{aligned}$$

$$\Rightarrow 3a - \frac{b}{3} - k \rightarrow 1 - 1 - (-1) = \boxed{1} \quad (r) - 11$$

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

$$m - x \geq 0$$

$$m - v = 0 \Rightarrow \boxed{m = v} \quad (r) - 10$$

$$D_{f \times g} = \left[\begin{matrix} 1 & \sqrt{x} \\ \sqrt{x} & 1 \end{matrix} \right] \Rightarrow \text{حدا درستی و صحت}$$

$$f(\mu) - g(\mu) = \sqrt[3]{\mu} - \sqrt{\mu} = \sqrt[3]{\mu} - \sqrt{\mu} + h - \sqrt{\mu} = \sqrt[3]{\mu} + h - \sqrt{\mu}$$

$$\Rightarrow \sqrt[3]{\mu} + h - \sqrt{\mu} = \sqrt[3]{\mu}$$

$$\Rightarrow \sqrt[3]{\mu} - \sqrt{\mu} + h = \sqrt[3]{\mu} \Rightarrow \boxed{h = \sqrt{\mu} - \sqrt[3]{\mu}} \quad (r) - 11$$

$$\boxed{h = \sqrt{\mu} - \sqrt[3]{\mu}} \quad (r) - 11$$