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مرد کردیجا تکیه شاره

$$\{x \mid x \in D_f, f(x) \in D_g\} \Rightarrow \{x \mid x \in D_f, f(x) \in D_g\} \Rightarrow x-1 \geq 1 \Rightarrow x \geq 2 \quad (1)$$

$$g(x) = \sqrt{-(x-2)^2} \Rightarrow D_g = 2 \Rightarrow D_{g \circ f} = \{x \mid x \in D_f, x=1\} = \{1\} \quad (2)$$

$$f \circ g(x) = 2(x^2 - 2x + 1) - 1 = 2x^2 - 4x + 1 \quad (3)$$

$$g \circ f(x) = (2x-1)^2 - 2(2x-1) + 1 = 4x^2 - 4x + 1 - 4x + 2 + 1 = 4x^2 - 8x + 4 \quad (4)$$

$$\Rightarrow 2x^2 - 4x + 1 = 4x^2 - 8x + 4 \Rightarrow 2x^2 - 4x + 3 = 0 \Rightarrow x = 1 \text{ or } x = 3/2 \quad (5)$$

$$100 - 3V = 94 \quad (6)$$

$$g(x) = \omega x^2 + 11 \quad \frac{x}{2} = x \Rightarrow g(x) = \omega \frac{x^2}{2} + 11 = \frac{\omega}{2} x^2 + 11 \Rightarrow g(x) = \frac{\omega}{2} x^2 + 11 \quad (7)$$

$$\Rightarrow g(x-1) = \frac{\omega}{2} (x-1)^2 + 11 \Rightarrow \min_{x \in \mathbb{R}} g(x-1) = 11 \quad (8)$$

کترین مقدار داری

این که x-1 منبسط

$$3(g) - 4 = 3x^2 - 4x - 1 \Rightarrow 3g = 3x^2 - 4x + 3 \Rightarrow g = x^2 - 2x + 1 \quad (9)$$

$$\Rightarrow g \circ f(x) = (3x-4)^2 - 2(3x-4) + 1 = 9x^2 - 20x + 20 = g \circ f(x) \quad (10)$$

$$f \circ g = -x + 2 \quad , \quad f \circ g = \frac{r}{a} x + r$$

$$\Rightarrow r \left(\underbrace{g(n) - f(n)}_{-x+2} \right) = -1r - f(n) \Rightarrow f(n) = \frac{rn+2}{r} \quad , \quad g(n) = \frac{-r}{r} x + r$$

$$f \circ g = r \cdot 2 - r(-rn+2) = r \cdot 2 + rn - 2r = rn - r \Rightarrow \frac{rn+2}{r} = \frac{rn-2}{r} \Rightarrow \frac{r}{a} x + r = \frac{rn-2}{r}$$

$$\Rightarrow \frac{-r}{r} + r = \frac{r}{a} x + r \Rightarrow \boxed{a = \frac{-r}{r}} \quad \frac{-r}{a} x = rn \quad \left[a = -\frac{1}{r} \right]$$

$$f \circ g = r \log_r x = r \log_e x^{\frac{1}{r}} = x \quad , \quad g \circ f = \log_r x^r = x \log_r r = rx$$

$$x^r \leq rx \Rightarrow x^r - rx \leq 0 \Rightarrow \frac{0}{x-1} + \frac{r}{x-1} \Rightarrow [0, r] \Rightarrow \{0, 1, r\}$$

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

$$f(t) = t^r + t \Rightarrow f(x) = x^r + x$$

$$f \circ g = \log_r (1x - x^r) \Rightarrow -x^r + 1x > 0 \Rightarrow \frac{0}{-1} + \frac{1}{-1} \Rightarrow (0, 1)$$

$$R_{f \circ g} \Rightarrow \text{graph} \Rightarrow R_{f \circ g} = (-\infty, 1) \Rightarrow A \cap B = (0, 1) \text{ project}$$

$$R_g = (-\infty, 1] \xrightarrow{\log_r} (-\infty, 2] \rightarrow R_{f \circ g} = (-\infty, 2]$$

$$A \cap B = (0, 2] \text{ project}$$

$$f \circ f(x) = 1 - x f'(x)$$

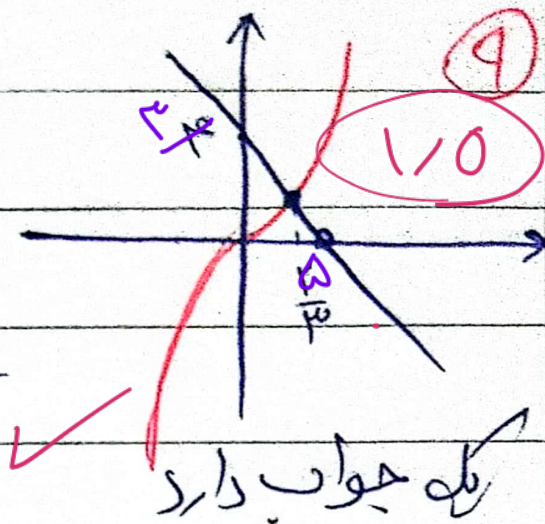
$$h(g(x)) = f(x)$$

$$f(x) = 1 - x^2$$

$$(x-1)^2 \cdot x^2 = 1 - x^2$$

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

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



$$f(x) = x - \frac{x}{a} \Rightarrow f(x) = x - \frac{x}{a} = 1 \Rightarrow \underline{x = a, x = -1}$$

$$g(x - \frac{x}{a}) = ax^2 + 2x \Rightarrow x = a \Rightarrow g(a) = 4(a+1) = 1 \Rightarrow \boxed{a = 0}$$

$$x = -1 \Rightarrow g(-1) = -a - 2 = 1 \Rightarrow \boxed{a = -1}$$