نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۸ کلاس .....

۱

$D_g \to -x^2+4x-3>0 \to D_g=\{1,3\}$ $\quad D_{g\circ f}=D_f\cap D_g=\{1,3\}$

$D_f \to x-1>0 \to x>1$

$\log_2^{x-1} 2^0 \to \to x^2-4x+3<0$

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$f\circ g\circ g(x) \to (2x-5)^2-2(2x-5)+1=2(x^2-3x+1)-5$

$4x^2-20x+25-6x+15+1=2x^2-6x+2-5$

$2x^2-20x+37=0$

$\alpha^2+\beta^2=S^2-2P \quad \frac{S=10}{P=\frac{37}{2}} \to 100-37=63$

۳

$f(x)=2x \to \frac{y}{2}=x \quad g(f(x))=2\left(\frac{x}{2}\right)^2+1$

$g(x-1)=\frac{3}{2}(x-1)^2+1 \to \frac{3}{2}x^2-\frac{15}{2}x+\frac{27}{2}+1$

$-\frac{b}{2a}=1 \xrightarrow[x=1]{\min} \frac{3}{2}(1)-\frac{15}{2}+\frac{27}{2}+1=11$

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

$g\circ f=(2x^2-3-1)^2=(2x-4)^2=4x^2-16x+16$

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$f(g(x))=2g(x)-4 \to 2g(x)=3f(x)-12 \to f(x)=4$

$f(x)=4$

$a \to f(g(x))=0 \to g(x)=2$

$g(x)=x^2-2x+1=2 \to x^2-2x-1=0 \to x=\frac{2\pm\sqrt{8}}{2}=1\pm\sqrt{2}$

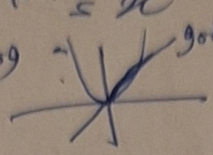
$f(x)=2x+4 \to$ شیب خط $=\frac{4}{2}=2$

شیب خط عمود $=-\frac{1}{2}$

$y-4=-\frac{1}{2}(x-0) \to y=-\frac{1}{2}x+4$

$fog = g^{\log_N x} = x^{\log_N g} = x^2$ $\quad gof = \log_N^{x^2} = 2x$

$x^2 \le 2x$



$x^2 - 2x \le 0$

$[0,2]$ ← (3)

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$\frac{x^2-2}{x} = x - \frac{2}{x}$ $\quad x^2 + x - 2 - \frac{2}{x} + \frac{2}{x^2} = \left(x - \frac{2}{x}\right) + \left(x - \frac{2}{x}\right)^2$

$f_{(x)} = x^2 + x$

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$D_f \to x > 0$ $\quad D_g \to \mathbb{R}$ $\quad D_{fog} = x(0, +\infty) = A$

$R_f = R$ $\quad R_g = (-\infty, +4]$ ⟵ رأس $\quad R_{fog} \to \log_2^{14} \le 4$

$R_{fog} = [\log 2] = B$

$A \cap B = (0, 2]$ ← بسته و باز

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$h(g) = \dots \to x^3 + 3x^2 + 3x - 2$

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$g(x) = 1 \to x - \frac{2}{x} = 2 \to x^2 - 2x - 2 = 0$ $\quad x = -1$ یا $x = 2$

if $x = -1 \to g(x) = 1 = -a - 2 \to a = -10$

if $x = 2 \to g(x) = 1 \to 4 + a + 1 = 1 \to a = 0$

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