نیوشا شیرزادگان دهم ریاضی B

۱- $\xrightarrow{x=a} a^2+2a = a^2 4 \rightarrow a=-2$

۲- $f(2)=3 \quad \frac{4+a}{4-b} = 3 \rightarrow 4+a = 12-3b \rightarrow a = 8+3 = 11$

$g(2)=3 \rightarrow 4+b=3 \rightarrow b=-1$ / $f(1) = \frac{1+11}{2+1} = \frac{12}{3} = 4$

۳- $x=-1 \rightarrow 2-a+b=0 \rightarrow \begin{cases} b-a=-2 \\ b+4a=-32 \end{cases}$

$x=4 \rightarrow 32+4a+b=0 \rightarrow$

$5a=-30$

$f(x) = \frac{4x+1}{2x^2-6x-8}$

$f(1) = \frac{4+1}{2-6-8} = \frac{5}{-12}$ $\quad a=-6 \quad b=-8$

۴- $f(x) = \frac{x^3-\sqrt{3}}{-4x^2+ax+b}$ $\quad -4(x+1)^2 = x^2+2x+1 = -4x^2-8x-4$

$a+b = -8-4 = -12$

۵) $(x-1)^2 = x^2+1-2x \quad m^2-4<0 \rightarrow -2<m<2$

$\frac{m^2-4}{2} < 0$ $\quad m^2<4$ $\quad \boxed{-2<m<2}$ $\quad (x-1)^3$ [illegible]

Δ [illegible]

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

$\boxed{m=-2}$

۶) $2-\frac{1}{x^2} \geq 0 \rightarrow (2-\frac{1}{x})(2+\frac{1}{x})=0$ $\quad x=\frac{1}{2} \quad x=-\frac{1}{2}$

$-\frac{1}{2}$		$\frac{1}{2}$
+	−	+

$D_f = (-\infty, -\frac{1}{2}] \cup [\frac{1}{2}, +\infty)$

۷) $mx^2+2mx+1 \geq 0 \rightarrow m>0$

$\hookrightarrow \Delta \leq 0 \rightarrow 4m^2-4m \leq 0 \rightarrow 4m(m-1) \leq 0$

$D_f = [0, 1]$

0		1
+	−	+

$f(\frac{1}{2}) = 2+k \quad g(\frac{1}{2}) = 2 \Rightarrow 2+k = 2 \Rightarrow k = 0$

$2x = 1 \neq 0 \Rightarrow x \neq \frac{1}{2} = a \Rightarrow a + k = \frac{1}{2}$ (8

$f(1) = g(1) \Rightarrow \frac{9-4}{3+2} = 3+b \Rightarrow \frac{5}{5} = 3+b \Rightarrow 1 = 3+b \Rightarrow b = -2$ (9

$f(-\frac{1}{2}) = g(-\frac{1}{2}) \Rightarrow -2a + 2 = -4 \Rightarrow -2a = -6 \Rightarrow a = 3$

$a - b = 5$

$f(2) = g(2) \Rightarrow 2a^2 + 2a = 4 \Rightarrow a^2 + a - 2 = 0 \quad (a+2)(a-1) = 0$ (10

$\downarrow -2 ✓ \quad \downarrow 1 ✓$

$x = 2 \Rightarrow 2a^2 + 2a = 4 \Rightarrow a^2 + a - 2 = 0 \quad a = 1$