نام و نام خانوادگی .... پاسخنامه تشریحی تکلیف شماره ..۲۸.. کلاس ...دهم ریاضی...

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$$\text{if } a = x \longrightarrow a^2 + 2a = a^2 - 4 \longrightarrow 2a = -4 \longrightarrow \boxed{a = -2}$$

پاسخ

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$$g(2) = 3 = 2(2) + b = 4 + b \longrightarrow b = -1$$

$$f(2) = 3 = \frac{(2)^2 + a}{2(2) - (-1)} = \frac{4 + a}{5} \longrightarrow 15 = 4 + a \longrightarrow a = 11$$

$$f(1) = \frac{1 + 11}{2 + 1} = \frac{12}{3} = \boxed{4}$$

پاسخ

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$$2x^2 + ax + b = 0 = x^2 + \frac{a}{2}x + \frac{b}{2} \longrightarrow -\frac{a}{2} = 4 - 1 = 3 \longrightarrow a = -6$$

$$\frac{b}{2} = -4 \longrightarrow b = -8$$

$$f(1) = \frac{4(1) + 1}{2(1)^2 - 6(1) - 8} = \frac{5}{-12} \longrightarrow \boxed{-\frac{5}{12}}$$

پاسخ

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$$-4x^2 + ax + b = 0 \longrightarrow \frac{-a}{-4} = \frac{a}{4} = -2 \longrightarrow a = -8$$

$$\longrightarrow \frac{b}{-4} = 1 \longrightarrow b = -4$$

$$\longrightarrow a + b = -8 - 4 = \boxed{-12}$$

پاسخ

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① $x^2 + mx + 1 \xrightarrow{\Delta < 0} m^2 - 4 < 0 \longrightarrow m^2 < 4 \longrightarrow -2 < m < 2$

② $x^2 + mx + 1 \xrightarrow{\Delta = 0} m^2 - 4 = 0 \longrightarrow m = \pm 2 \longrightarrow = 2$ ✗ [illegible]

$\quad = -2$ ✓

$$\longrightarrow \boxed{m = [-2, 2)}$$

پاسخ

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① $x^2 \neq 0 \longrightarrow \underline{x \neq 0}$

② $4 - \frac{1}{x^2} \geq 0 \longrightarrow 4 \geq \frac{1}{x^2} \longrightarrow 4x^2 \geq 1 \longrightarrow x^2 \geq \frac{1}{4}$

$\longrightarrow \underline{x \geq \frac{1}{2}}, \underline{x \leq -\frac{1}{2}}$

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

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$f(x) = \sqrt{mx^2 + 2mx + 1} \longrightarrow \underline{\underline{a = m > 0}} \longrightarrow \Delta \leq 0 \longrightarrow 4m^2 - 4m \leq 0$

$\longrightarrow m^2 - m \leq 0 \longrightarrow m(m-1) \leq 0 \longrightarrow \underline{m = [0, 1]}$

$\longrightarrow \boxed{m = [0, 1]}$ (پاسخ)

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$2a - 1 = 0 \longrightarrow \underline{a = \frac{1}{2}}$

$f(\frac{1}{2}) = g(\frac{1}{2}) \longrightarrow 4(\frac{1}{2}) + K = 2(\frac{1}{2}) + 1 \longrightarrow 2 + K = 2$

$\longrightarrow \underline{K = 0} \longrightarrow a + K = \frac{1}{2} + 0 = \boxed{\frac{1}{2}}$ (پاسخ)

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$if\ x \neq -\frac{2}{3} \longrightarrow \frac{(3x+2)(3x-2)}{3x+2} = 3x - 2 = 3x + b \longrightarrow \underline{b = -2}$

$-2a + 2 = -12 + 2 \longrightarrow 6 = 2a \longrightarrow \underline{a = 3}$

$\longrightarrow a - b = 3 - (-2) = \boxed{5}$ (پاسخ)

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$\underline{x=2} \longrightarrow 2a^2 + 2a = 4 \longrightarrow 2a^2 + 2a - 4 = 0 \longrightarrow a^2 + a - 2 = 0$

$\longrightarrow (a-1)(a+2) = 0 \longrightarrow a = \begin{cases} +1 \\ -2 \end{cases} \longrightarrow \boxed{a = \{-2, 1\}}$

(پاسخ)