Subject. دهم تجربی C   ال‌ها دستار   تمرین ۱۸
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(۱)

$$a^2+2a=a^2-4$$
$$2a=-4$$
$$\boxed{a=-2}$$

(۲)

$$4+b=3 \qquad \frac{4+a}{4+1}=3$$
$$b=-1 \qquad 4+a=15$$
$$a=11$$

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

(۳)

$$f(x)=\frac{4x+1}{a(x+1)(x-4)}=\frac{4x+1}{a(x^2-3x-4)}=\frac{4x+1}{2x^2-6x-8}$$
$$a=2$$

$$f(1)=\frac{5}{\underbrace{2-6-8}_{-12}}=\boxed{\frac{5}{-12}}$$

(۴)

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

$$a=-8 \quad b=-4 \qquad a+b=-12$$

(۵)

$$m^2-4<0 \qquad (x-1)^2=x^2-2x+1$$
$$-2<m<2 \quad \cup \quad m=-2 \Rightarrow m\in[-2,2)$$

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(۹)

$x \neq 0$

$D_f : \mathbb{R} - (-\frac{1}{2}, \frac{1}{2})$

$\frac{1}{x^2} > 0$

$4x^2 - 1 > 0$

$4x^2 > 1$

$x^2 > \frac{1}{4}$ $\quad x < -\frac{1}{2}$

$x > \frac{1}{2}$

(۷)

$m > 0$.

$4m^2 - 5m < 0$

$4m(m-1) < 0$ $\quad m \in [0, 1]$

	0		1	
$+$	ϕ	$-$	ϕ	$+$

(۸)

$$f(x) = \begin{cases} \frac{(2x+1)(2x-1)}{2x-1} & x \neq a \Rightarrow a = \frac{1}{2} \\ 4x + k \end{cases}$$

$x = \frac{1}{2}$ $\quad f(x) = g(x) = 2$

$4 \times \frac{1}{2} + k = 2$

$k = 0$

$a + k = \frac{1}{2}$

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(9)

$$f(x) = \begin{cases} \dfrac{(2x-1)(2x+1)}{2x+1} & x \neq 1/2 \\ 2ax+1 & x = 1/2 \end{cases}$$

$f(x) = g(x)$

$x=1 \quad \frac{a}{a} = 1 = 2x+b \Rightarrow x = -1/2 \quad g(a) = f(a) = -3$

$1 = 2+b$

$-1 = b$

$-2a+1 = -3$

$-2a = -4$

$a = 2$

$a - b = 3$

(10)

$2 = 2a^2 + 2a$

$1 = a^2 + a$

$\therefore -a^2 + a - 1$

$a = -1 \pm 1$

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