نام و نام خانوادگی ..امیرحسین ربیعی..... پاسخنامه تشریحی تکلیف شماره ..۱۲.. کلاس ......یازدهم......

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$(-1/5, 0) \rightarrow 0 = 1 - \log_c^{-1/5a-b} \rightarrow \log_c^{-1/5a-b} = 1 \rightarrow -1/5a - b = c \rightarrow -\frac{3}{2}a = -\frac{3}{2} \rightarrow \boxed{a=1}$

$(0,2) \rightarrow 2 = 1 - \log_c^{b} \rightarrow \log_c^{-b} = -1 \rightarrow -b = \frac{1}{c} \rightarrow bc = -1$

$x^2 - Sx + P = 0 \rightarrow x^2 + \frac{3}{2}x - 1 = 0 \rightarrow 2x^2 + 3x - 2 = 0 \rightarrow x^2 + 3x - 4 = 0 \rightarrow (x+4)(x-1) = 0$

$\rightarrow x \begin{cases} -2 = b \\ \frac{1}{2} = c \end{cases}$

$(a+c)b = (1 + \frac{1}{2}) \times (-2) = \frac{3}{2} \times (-2) = \boxed{-3} \rightarrow$ پاسخ

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$(1,0) \rightarrow 0 = 1 + c \times 3^{a+b} \rightarrow c \times 3^{a+b} = -1 \longrightarrow \frac{3^{a+b} \times c}{3^{a} \times c} = 3 \rightarrow 3^{b} = 3 \rightarrow \boxed{b=1}$

$(0, \frac{2}{3}) \rightarrow \frac{2}{3} = 1 + c \times 3^{a} \rightarrow \underbrace{c \times 3^{a} = -\frac{1}{3}}$

$f(-1) = 1 + c \times 3^{a-1} = 1 + \frac{c \times 3^{a}}{3} = 1 - \frac{1}{9} = \boxed{\frac{8}{9}} \rightarrow$ پاسخ

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$(0,2) \rightarrow 2 = c + \log_5^{b}$

$(2/4, 0) \rightarrow 0 = c + \log_5^{2/4a+b}$

$\xrightarrow{\text{منها}} 2 = \log_5^{b} - \log_5^{2/4a+b} = \log_5^{\frac{b}{2/4a+b}} = \log_5^{25}$

$25 = \frac{b}{2/4a+b} \rightarrow 60a + 25b = b$

$60a = -24b$

$\Rightarrow \frac{a}{b} = \frac{-24}{60} = \boxed{-\frac{2}{5}}$ پاسخ

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$f(x) = \log_4(|x^2-2| - x) \longrightarrow |x^2-2| - x > 0 \rightarrow |x^2-2| > x \begin{cases} x^2-2 > x \rightarrow x^2-x-2 > 0 \\ x^2-2 < -x \rightarrow x^2+x-2 < 0 \end{cases}$

$x^2-x-2 > 0 \rightarrow (x-2)(x+1) > 0 \rightarrow$

x		-1		2	
y	$+$		$-$		$+$

$\rightarrow (-\infty, -1) \cup (2, +\infty)$

$x^2+x-2 < 0 \rightarrow (x+2)(x-1) < 0 \rightarrow$

x		-2		1	
y	$+$		$-$		$+$

$\rightarrow (-2, 1)$

$(-2,1)$

اجتماع $\cup \rightarrow D_f = (-\infty, 1) \cup (2, +\infty)$

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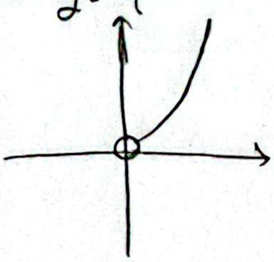
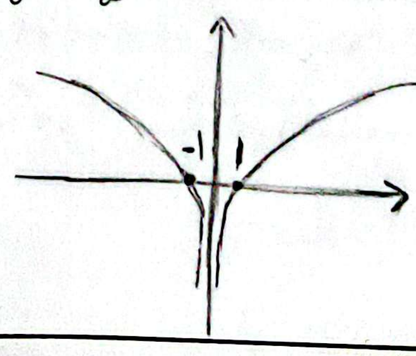
$g(x) = -x^2 - 3x + 8 \xrightarrow{x=1} -1 - 3 + 8 = 4 \rightarrow 4 = 2 + 2^{b-a} \rightarrow 2^{b-a} = 2 \rightarrow \boxed{b-a=1}$

$f(-1) = 10 \rightarrow 10 = 2 + 2^{b+a} \rightarrow 2^{b+a} = 2^{3} \rightarrow \boxed{b+a=3}$

$\rightarrow b = 2, a = 1$

$2b - a = 4 - 1 = \boxed{3} \rightarrow$ پاسخ

$y = x^2 - x \begin{cases} \xrightarrow{x=1} 1-1=0 \longrightarrow f(1) = -2+2^{-(A+B)} = 0 \longrightarrow -(A+B) = 1 \\ \xrightarrow{x=2} 4-2=2 \longrightarrow f(2) = -2+2^{-2A-B} = 2 \longrightarrow 2^{-2A-B} = 2^2 \longrightarrow 2A+B=-2 \end{cases}$ $\Longrightarrow A=-1, B=0 \longrightarrow f(3) = -2+2^{-3A+B} = -2+2^3 = \boxed{6}$ پاسخ	۶
$A_2 = A_1 \times p^{t/T} \longrightarrow \frac{1}{6}\cancel{A_1} = \cancel{A_1} \times \left(\frac{8}{9}\right)^{t/1} \longrightarrow 6 = \left(\frac{9}{8}\right)^t$ $\longrightarrow \log_5 6 = t(2\log_5 3 - 3\log_5 2) \longrightarrow \log_5 3 + \log_5 2 = t(2\log_5 3 - 3\log_5 2)$ $\frac{5}{7}+\frac{5}{12} = t\left(2\times\frac{5}{7} - 3\times\frac{5}{12}\right) \longrightarrow \frac{95}{\cancel{7\times12}} = t\times\left(\frac{15}{\cancel{12\times7}}\right) \longrightarrow t = \frac{95}{15}h \Rightarrow \frac{95}{15}\times 60 = \boxed{380\,min}$	۷
$A_2 = A_1 \times p^{t/T} \longrightarrow \frac{1}{7} = \left(\frac{875}{1000}\right)^{t/7} \longrightarrow 7 = \left(\frac{8}{7}\right)^{t/7}$ $\frac{875}{1000} \to \frac{7}{8}$ $\log_3 7 = \frac{t}{7}(3\log_3 2 - \log_3 7) \longrightarrow \frac{5}{3} = \frac{t}{7}\left(\frac{15}{8} - \frac{5}{3}\right) \rightarrow \frac{\cancel{5}}{\cancel{3}} = \frac{t}{7}\left(\frac{45-40}{\cancel{24}_{8}}\right)$ $1 = \frac{t}{56} \Rightarrow \boxed{t = 56}$ روز	۸
$\frac{1}{3}\cancel{A_1} = \cancel{A_1} \times (0/96)^{t/1} \longrightarrow 3 = \left(\frac{100}{96}\right)^t \longrightarrow \log 3 = t(\log 100 - \log 96)$, $\log 100 \to 2$ $\log 96 = \log 3 + \log 32 = \log 3 + 5\log 2 = 0/48 + 1/5 = 1/98$ $\frac{48}{100} = t(2-1/98) \Rightarrow \frac{48}{100} = \frac{2}{100}\times t \Rightarrow \boxed{t = 24}$ روز	۹
الف) $y = 9^{\log_3 x} = x^{\log_3 9} = x^2$ ، $\rightarrow x>0$  ب) $y = \log x^2$  	۱۰