به نام خدا

تکلیف ۲۵ A رایان معماریان یازدهم

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SUBJECT

Year: Month: Day:

(۱)

$b+c=-\frac{3}{2}$ $1-\log_c^{-\frac{3}{2}a-b}=0 \Rightarrow c=-\frac{3}{2}a-b$

$\Rightarrow b+c=-\frac{3}{2}a \Rightarrow -\frac{3}{2}=-\frac{3}{2}a \Rightarrow \boxed{a=1}$

$2=1-\log_c^{-b}$ $2=1-\log_c^{-b}$

$\Rightarrow \frac{1}{c}=-b \overset{c=\frac{1}{2}}{\Rightarrow} b=-2$ $b+c=-\frac{3}{2} \Rightarrow c-\frac{1}{c}=-\frac{3}{2}$

$\Rightarrow c^2+\frac{3}{2}c-1=0$ $\frac{-\frac{3}{2}\pm\sqrt{\frac{25}{4}}}{2}$ → $c=-2$ غ ق ق / → $c=\frac{1}{2}$ $(1+\frac{1}{2})\times -2=\boxed{-3}$

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1	0
0	$\frac{2}{3}$

$\to 0=1+c\times 3^{a+b} \to 3^{(a+b)}=\frac{-1}{c} \to \log_3^{-c^{-1}}=a+b$ $\frac{1}{-c}>0$

$\to \frac{2}{3}=1+c\times 3^{a} \to -3^{-1}=c\times 3^{a} \to \boxed{c=-1}$ و $\boxed{a=-1} \Rightarrow b+a=0 \to \boxed{b=1}$

$\to f(-1)=1-\frac{1}{9}=\boxed{\frac{8}{9}}$

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2,4	0
0	2

$\to -c=\log_5^{(2,4a+b)} \to 5^{-c}=2,4a+b \Rightarrow 5^{-c}=5^2\times 5^{-c}=5^{-c}(1-25)$

$-2,4a$

$\to 2=c+\log_5^{b} \to 5^{(2-c)}=b \to 25\times 5^{-c}=b \to 5^{-c}=\frac{b}{25} \to \frac{b}{25}=\frac{1}{10}a$ $5^{-c}=-0,1a$

$\to \frac{a}{b}=-0,4$

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$|x^2-x|-x>0 \to |x^2-2|>x$

→ $x^2-2>x \to x^2-x-2>0 \to$ $\begin{matrix}-1 & 2\\ + \; - \; + \end{matrix}$

→ $x^2-2<-x \to x^2+x-2<0 \to$ $\begin{matrix}-2 & 1\\ + \; - \; + \end{matrix}$

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

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$g(1)=f(1) \to -1-3+8=2+2^{b-a} \to 2^1=2^{b-a} \to 1=b-a$

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

$\Rightarrow a=1, b=2$

$2b-a=\boxed{3}$

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$f(1)=g(1) \Rightarrow 0=-2+2^{-A-B} \Rightarrow -A-B=1$

$f(2)=g(2) \Rightarrow 6=-2+2^{-2A-B} \Rightarrow 2^3=2^{-2A-B} \Rightarrow 2A+B=-3 \Big\} \Rightarrow A=-2 , B=0$

$f(3)=-2+2^{3+0}=6$

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t = سرعت
M = جرم اولیه

$\frac{m}{6}=M\left(\frac{5}{9}\right)^t \Rightarrow \log_{\frac{5}{9}}^{\frac{1}{6}}=t \Rightarrow t=-\log_{\frac{5}{9}}^{6}$

$=-\frac{\log_5^6}{\log_5^{\frac{5}{9}}}=-\frac{\log_5^2+\log_5^3}{3\log_5^2-2\log_5^3}=\frac{-95}{-15}h \approx$ **۳۸۰ min**

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t = مدت
M = جرم اولیه

$\frac{M}{7}=M\left(\frac{7}{8}\right)^t \Rightarrow \log_{\frac{7}{8}}^{\frac{1}{7}}=t \Rightarrow -\log_{\frac{7}{8}}^{7}=t=-\frac{\log_3^7}{\log_3^{\frac{7}{8}}}$

$=\frac{-\log_3^7}{\log_3^7-3\log_3^2}=\frac{-40}{-5}=8$ مدت **= ۵۶ روز**

$100-12.5=87.5=\frac{7}{8} \;/\; \log_3^2=\frac{5}{8} \;/\; \log_3^7=\frac{5}{3}$

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$100\times\left(\frac{24}{25}\right)^t=\frac{1}{3}\times\frac{100}{100} \Rightarrow \left(\frac{96}{100}\right)^t=\frac{1}{3}$ در هر مرحله غلظت $\frac{24}{25}$ می‌شود

$\Rightarrow (t)\log\frac{96}{100}=\log\frac{1}{3} \Rightarrow (t)(\log 96-2)=-\log 3 \Rightarrow (t)(5\log 2+\log 3-2)=-\log 3$

$\log 5=1-\log 2=0.7$
$\log 3=0.48$
$\log 2=0.3$

$\Rightarrow (t)(1.5+0.48-2)=-(0.48) \Rightarrow t=24$ **روز**

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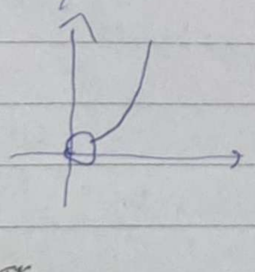
$y=x^{\log_3^9}=x^2 \;/\; x>0$



$x^2>0 \quad x\in\mathbb{R}-\{0\}$