۱-

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

$\Rightarrow (c-\frac{1}{2})(c+2)=0 \xrightarrow{c>0} \boxed{c=\frac{1}{2}} \Rightarrow \boxed{b=-2}$

$x=-1.5 \Rightarrow 1-\log_{\frac{1}{2}}^{-\frac{3}{2}a+2}=0 \Rightarrow \log_{\frac{1}{2}}^{2-\frac{3}{2}a}=1 \Rightarrow 2-\frac{3}{2}a=\frac{1}{2} \Rightarrow \boxed{a=1}$

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

۲-

$f(1)=1+c\times 3^{a+b}=0 \Rightarrow c\times 3^{a+b}=-1$

$f(0)=1+c\times 3^{a}=\frac{8}{9} \Rightarrow c\times 3^{a}=\frac{-1}{9}$ $\Big\}$ $\Rightarrow 3^b=3 \Rightarrow \boxed{b=1} \Rightarrow c\times 3^{a-b}=\frac{-1}{9}$

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

۳-

$f(24)=c+\log_3^{24a+b}=0$

$f(0)=c+\log_3^{b}=2$

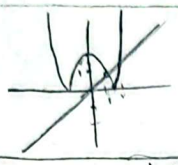
$\Rightarrow \log_3^{\frac{b}{24a+b}}=2 \Rightarrow \frac{b}{24a+b}=\frac{1}{9} \Rightarrow b=24b+240a$

$-24b=240a \Rightarrow \frac{a}{b}=\frac{-24}{240}=\boxed{\frac{-1}{10}}$

۴-

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

$x\notin[1,2]$



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

۵-

$x=1 \Rightarrow -1-4+8=1+2^{b-a} \Rightarrow 2=2^{b-a} \Rightarrow b-a=1$

$f(-1)=10 \Rightarrow 2+2^{b+a}=10 \Rightarrow 2^{b+a}=2^3 \Rightarrow b+a=3$ $\Big\}$ $\Rightarrow b=2,\ a=1$ $\quad 2b-a=4-1=\boxed{3}$

۶-

$x=1 \Rightarrow 1^2-1=-4+(\frac{1}{2})^{A+B} \Rightarrow (\frac{1}{2})^{A+B}=2^2 \Rightarrow A+B=-2$

$x=2 \Rightarrow 2^2-4=-4+(\frac{1}{2})^{2A+B} \Rightarrow (\frac{1}{2})^{2A+B}=4$ $\Big\}$ $\Rightarrow A=-1,\ B=0$

$f(3)=-4+(\frac{1}{2})^{3A+B}=-4+(\frac{1}{2})^{-3}=-4+8=\boxed{4}$

۷-

$a\cdot(\frac{8}{9})^{t}=\frac{a}{4} \Rightarrow 4=(\frac{9}{8})^{t} \Rightarrow 1=t\log_{\frac{9}{8}}^{4} \Rightarrow \frac{1}{t}=\frac{\log_2^9}{\log_2^4}-\frac{\log_2^8}{\log_2^4}=\frac{2(\frac{1}{1.4})}{\frac{1}{2.4}+\frac{1}{2}}-\frac{3(\frac{1}{1.4})}{\frac{1}{2.4}+\frac{1}{1.4}}=$

$\frac{\frac{2}{1.4}-\frac{3}{2.4}}{\frac{1}{1.4}+\frac{1}{2.4}}=\frac{\frac{2\times 2.4-3\times 1.4}{(1.4)(2.4)}}{\frac{2.4+1.4}{(1.4)(2.4)}}=\frac{0.9}{3.8}=\boxed{\frac{9}{19}} \Rightarrow t=\frac{19}{3}\times 12=\boxed{76}$

۸-

$a\cdot(\frac{7}{8})^{7t}=\frac{a}{7} \Rightarrow 7=(\frac{8}{7})^{7t} \Rightarrow 1=7t\log_7^8 \Rightarrow \frac{1}{7t}=\log_8^7-1 \overset{①}{=}\frac{1}{7}$

$\log_8^7=\frac{3\log 7}{\log 8}=3\times\frac{\log 7}{\log 2}\times\frac{\log 2}{\log 3}=3\times 0.7\times\frac{1}{1.4}=\frac{3}{4}$ ①

$7t=8 \Rightarrow \boxed{t=\frac{8}{7}}$

۹-

$a\cdot(\frac{99}{100})^{d}=\frac{a}{3} \Rightarrow 3=(\frac{100}{99})^{d} \Rightarrow 1=d\log_3^{\frac{100}{99}} \Rightarrow \frac{1}{d}=2\log_3^{10}-\log_3^{99}=2(\frac{1}{0.48})-\frac{3.3}{1}$

$\log_3^{99}=\frac{\log 99}{\log 3}=\frac{\log 3+2\log 3^2}{\log 3}=\frac{1+2\log\frac{3^2}{2}}{1}=1+2(\frac{0.48}{0.3})=\frac{3.3}{1}$ ①

$\frac{1}{d}=\frac{100}{48}-\frac{33}{10}=\frac{1}{24} \Rightarrow \boxed{d=24}$

۱۰-

الف) $x^{\log_2^x}=x^2$

ب) $x\log 2$