۱) $\log_c^{-b} = 2 \rightarrow \frac{1}{c} = -b \rightarrow b = -\frac{1}{c} \rightarrow \frac{c^2-1}{c} = -\frac{3}{4} \rightarrow 4c^2 + 3c - 4 = 0$

$(c+4)(c-1) = 0$ → -4 , → $\frac{1}{4}$

۲) $c \times 3^a = -1 \times 3^{-1}$ → $c = -1$, $a = -1$

$1 + (-1) \times 3^{b-1} = 0$ → $b = 1$

$1 + (-\frac{1}{9}) = \frac{8}{9}$

۳) $n = 2^4 \rightarrow c + \log_a^{2^{4a+b}} = 0$

$n = 0 \rightarrow c + \log_a^b = 2 \rightarrow c = -\log_a^{2^{4a+b}}$

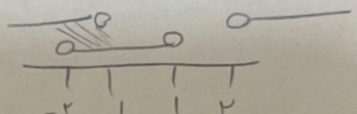
$a = a + 2a + b = b \rightarrow \frac{a}{b} = -\frac{24}{40} = \boxed{-\frac{6}{10}}$

۴) $|x^2 - 2| - x > 0$

$x^2 - x - 2 > 0 \rightarrow (x-2)(x+1) > 0$ → $+ \; | \; - \; | \; +$ (at -1, 2)

$x^2 + x - 2 < 0$

$(x+2)(x-1) < 0$ → $+ \; | \; - \; | \; +$ (at -2, 1)



$D_f = \boxed{(-2, -1)}$

۵) $n = 1 \rightarrow +^{b-a} = 2 + 2 \rightarrow b - a = 1$

$n = -1 \rightarrow 10 = 2 + 2^{b+a} \rightarrow b + a = 3$

$\rightarrow \boxed{a = 1}$

$\rightarrow \boxed{b = 2}$

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

بسمه تعالی

موسسه مالی و اعتباری ثامن الحجج (ع)

(تحت نظارت بانک مرکزی)

تاریخ :.....

شماره :.....

پیوست : .....

(۶)

$n=1 \rightarrow 0 = -2 + \left(\frac{1}{2}\right)^{A+B} \hookrightarrow 2 = 2^{-A-B} \rightarrow -A-B=1$

$n=2 \rightarrow 2 = -2 + \left(2\right)^{-2A-B} \rightarrow 4 = 2^{-2A-B} \rightarrow -2A-B=2$ ⊖

$-A=1$

$A=-1 \rightarrow B=0$

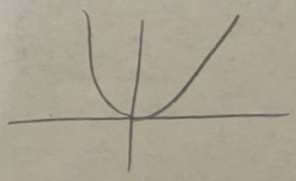
$f(3) \Rightarrow -2 + \left(\frac{1}{2}\right)^{-3} \rightarrow -2+8 = 6$

(۷) نفر دارم ✗

(۸) نفر دارم ✗

(۹) ✗ نفر دارم

(۱۰) الف) $9^{\log_3 n} \Rightarrow 8^{\log_2 9} = n^2$



ب) $\log n^2$