(الف) امیرمحمدی شزوری ۱۱۰ ابسر B ۲d

$$\log_{c} \frac{c}{ax+b} \Rightarrow \frac{c}{-b} = c^{2} \Rightarrow c = -\frac{1}{b}$$

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

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

$$c = \frac{-2}{50} \times$$

$$\Rightarrow \log_{\frac{1}{2}} \frac{\frac{1}{2}}{-1/5a+2} = 0 \Rightarrow \frac{\frac{1}{2}}{-1/5a+2} = 1 \Rightarrow \frac{1}{-3a+4} = 1 \Rightarrow \boxed{a=1}$$

$$\Rightarrow \left(1 + \frac{1}{2}\right)(-2) = \boxed{-3}$$

$$2 = C + \log_{5}^{b}$$

$$0 = C + \log_{\omega}^{2.4a+b}$$

$$\Rightarrow \boxed{-2 = \log_{5}^{\frac{2.4a+b}{b}}}$$

$$-2 = \log_{\omega}^{1+2.4\frac{a}{b}} \Rightarrow \frac{1}{25} = 2.4\frac{a}{b} + 1 \Rightarrow \frac{-24}{25} = 2.4\frac{a}{b}$$

$$\Rightarrow \frac{a}{b} = \frac{-10}{25} = \boxed{-\frac{2}{5}}$$

$x \geq \sqrt{2}$ $x < -\sqrt{2}$

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

	-1		2	
	$+$	0	$-$	0

$\Rightarrow (-\infty, -\sqrt{2}) \cup (2, +\infty)$

$-\sqrt{2} \leq x < \sqrt{2}$

$-x^2-x-2>0 \Rightarrow$

	-2		1	
	$-$	0	$+$	0

$\Rightarrow [-2, 1)$

$\Rightarrow R - [1,2] = D$

(۵)

$x=1 \Rightarrow -1-3+8 = 2+2^{b-a}$

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

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

$\Rightarrow b=2 , a=1 \Rightarrow 3 = 2b-a$

(۶)

$-2+2^{-A-B} = 0 \Rightarrow A+B=-1$

$-2+2^{-2A-B} = -2+2^{1-A} = 2 \Rightarrow 1-A = 2 \Rightarrow \boxed{A=-1}$

$\Rightarrow B=0 \Rightarrow f(3) = -2+2^{3} = \boxed{6}$

(۷)

$m \times \left(\frac{1}{9}\right)^{h} \Rightarrow m \times 3^{-2h} = \frac{m}{4}$

$\Rightarrow 3^{-2h} = \frac{1}{4}$

$\frac{\log_5^2}{\log_5^3} = \frac{\frac{1}{3/4}}{\frac{1}{2/4}} = \frac{12}{24} = \frac{7}{12} \Rightarrow \log_3^4 = 1+\log_3^2 = \frac{19}{12}$

$\Rightarrow 2h = \frac{19}{12} \Rightarrow h = \frac{19}{24} \Rightarrow min = 40 \times \frac{19}{24} = 2/5 \times 19 =$ (47/5 min)

(۸)

$m\left(\frac{7}{8}\right)^{w} = \frac{m}{7} \Rightarrow \frac{1}{7} = \left(\frac{7}{8}\right)^{w}$

$\log_2^7 = \frac{1/4}{0/5} = \frac{8}{3} \Rightarrow 7^{-1} = 2^{-\frac{8}{3}} = \left(\frac{7}{8}\right)^{w}$

$\Rightarrow 2^{-\frac{8}{3}} = 2^{\frac{8}{3}w-3w}$

$\frac{-1}{3}w = -\frac{8}{3} \Rightarrow w = 8 \Rightarrow 8\times7 =$

۵۶ روز

$\frac{1}{32} = \left(\frac{92}{100}\right)^{5}$

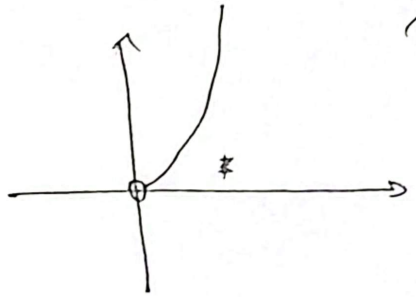
۹

$\frac{92}{100} = 2^{5} \times 3 \times 10^{-2} \simeq 10^{1.5} \times 10^{0.48} \times 10^{-2} = 10^{\frac{-2}{100}}$

$\Rightarrow 10^{\frac{-25}{100}} = 10^{-0.48} \Rightarrow 0.48 = 0.025 \Rightarrow D = 25$

۱۰

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



$y = \log_2 x^2 \Rightarrow y = 2\log_2 x \Rightarrow$