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

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$(-1/5,0) \to 0 = 1 - \log_c^{-1/5a-b} \to \log_c^{-1/5a-b} = 1 \to -1/5a - b = c \to -\frac{3}{2}a = -\frac{3}{2} \to \boxed{a=1}$ $(0,2) \to 2 = 1 - \log_c^{b} \to \log_c^{-b} = -1 \to -b = \frac{1}{c} \to bc = -1$ $x^2 - 5x + p = 0 \to x^2 + \frac{3}{2}x - 1 = 0 \to 2x^2 + 3x - 2 = 0 \to x^2 + 3x - 4 = 0 \to (x+4)(x-1) = 0$ $\to x: -2 = b,\ \frac{1}{2} = c$ $(a+c)b = (1 + \frac{1}{2}) \times (-2) = \frac{3}{2} \times (-2) = \boxed{-3} \to$ پاسخ ۲	۱
$(1,0) \to 0 = 1 + c \times 3^{a+b} \to c \times 3^{a+b} = -1 \longrightarrow \frac{3^{a+b} \times c}{3^a \times c} = 3 \to 3^b = 3 \to \boxed{b=1}$ $(0,\frac{2}{3}) \to \frac{2}{3} = 1 + c \times 3^a \to c \times 3^a = -\frac{1}{3}$ $f(-1) = 1 + c \times 3^{a-1} = 1 + \frac{c \times 3^a}{3} = 1 - \frac{1}{9} = \boxed{\frac{8}{9}} \to$ پاسخ ۲	۲
$(0,2) \to 2 = c + \log_d^{b}$ $(2/4,0) \to 0 = c + \log_d^{2/4a+b}$ منها $\to 2 = \log_d^{b} - \log_d^{2/4a+b} = \log_d \frac{b}{2/4a+b} = \log_d^{2d}$ $2d = \frac{b}{2/4a+b} \to 60a + 2db = b$ $60a = -24b$ $\Rightarrow \frac{a}{b} = \frac{-24}{60} = \boxed{-\frac{2}{5}}$ پاسخ ۲	۳
$f(x) = \log_4(\|x^2-2\| - x) \longrightarrow \|x^2-2\| - x > 0 \to \|x^2-2\| > x$ $x^2 - 2 > x \to x^2 - x - 2 > 0$ $x^2 - 2 < -x \to x^2 + x - 2 < 0$ $x^2 - x - 2 > 0 \to (x-2)(x+1) > 0 \to$ (x: -1, 2; y: + − +) $\to (-\infty,-1) \cup (2,+\infty)$ $x^2 + x - 2 < 0 \to (x+2)(x-1) < 0 \to$ (x: -2, 1; y: + − +) $\to (-2,1)$ اجتماع $\to D_f = (-\infty,1) \cup (2,+\infty)$ ۲	۴
$g(x) = -x^2 - 3x + 8 \xrightarrow{x=1} -1 - 3 + 8 = 4 \to 4 = 2 + 2^{b-a} \to 2^{b-a} = 2 \to \boxed{b-a=1}$ $f(-1) = 10 \to 10 = 2 + 2^{b+a} \to 2^{b+a} = 2^3 \to \boxed{b+a=3}$ $\to b = 2,\ a = 1$ $2b - a = 4 - 1 = \boxed{3} \to$ پاسخ ۲	۵

$y = x^2 - x$

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

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

$\Rightarrow A=-1, B=0 \to f(3) = -2+2^{-3A+B} = -2+2^3 = 6$ ✓

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$A_1 = A_0 \times p^{t/T} \to \frac{1}{9}A_0 = A_0 \times (\frac{8}{9})^{t/1} \to \frac{1}{9} = (\frac{8}{9})^t$

$\to \log_{\frac{8}{9}} \frac{1}{9} = t(3\log_{\frac{8}{9}} 2 - 2\log_{\frac{8}{9}} \frac{8}{9}) \to \log_{\frac{8}{9}} 9 = t(2\log_{\frac{8}{9}} \frac{8}{9} - 3\log_{\frac{8}{9}} 2)$

$\frac{1}{7} + \frac{1}{12} = t(2 \times \frac{1}{7} - 3 \times \frac{1}{12}) \to \frac{19}{84} = t \times (\frac{1}{28}) \to t = \frac{19}{3}\,h \Rightarrow \frac{19}{3} \times 60 = 380\,min$ ✓

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$A_2 = A_1 \times p^{t/T} \to \frac{1}{7} = (\frac{875}{1000})^{t/1} \to 7 = (\frac{8}{7})^{t/1}$

$\log_{\frac{8}{7}} 7 = t(3\log_{\frac{8}{7}} 2 - \log_{\frac{8}{7}} 7) \to \frac{1}{3} = t(\frac{1}{8} - \frac{1}{3}) \to \frac{1}{3} = t(\frac{3-8}{24}) \to t = 24$ روز ✓

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$\frac{1}{3}A_0 = A_0 \times (0/96)^{t/1} \to 3 = (\frac{100}{96})^t \to \log 3 = t(\log 100 - \log 96)$

$\log 96 = \log 3 + \log 32 = \log 3 + 5\log 2 = 0/48 + 1/5 = 1/98$

$\frac{48}{100} = t(2 - 1/98) \Rightarrow \frac{48}{100} = \frac{2}{100} \times t \Rightarrow t = 24$ روز ✓

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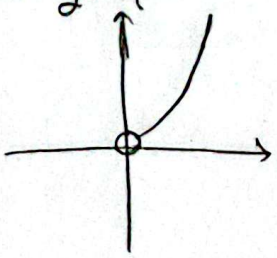
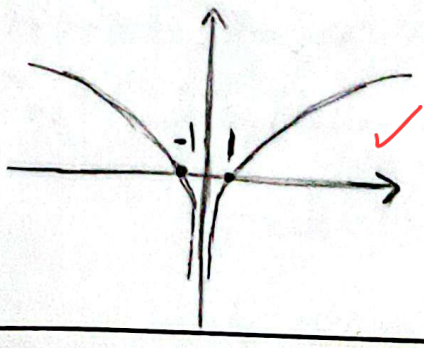
الف) $y = 9^{\log_3 x}, x>0 = x^{\log_3 9} = x^2$



ب) $y = \log x^2$



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