

الف) $\begin{cases} 2x - y = 9 \\ x + 2y = -4 \end{cases} \Rightarrow \begin{cases} 2x = 14 \\ x = 7 \end{cases} \Rightarrow \frac{x}{7} = \frac{y}{-3}$ (1)

$\frac{y - x}{xy} = -1 \Rightarrow y - x = -xy \Rightarrow x - y = xy$
 $\frac{dy - dx}{xy} = -1 \Rightarrow \frac{dy}{y} - \frac{dx}{x} = -1 \Rightarrow \int \frac{dy}{y} - \int \frac{dx}{x} = \int -1$
 $\ln y - \ln x = -x + C$
 $\ln \frac{y}{x} = -x + C$
 $\frac{y}{x} = e^{-x+C} = e^{-x} \cdot e^C$
 $\frac{y}{x} = k e^{-x}$
 $y = k x e^{-x}$

$a + 1 = -2$
 $\Rightarrow a = -3$

$f(x) = -4 = 2f(x) + -4 \Rightarrow f(x) = 0 = b$

$m^2 - 3m - 2 \Rightarrow m^2 - 3m + 2$
 $(m-1)(m-2) < 4$
 $(m-1)(m-2) < 4$
 (3) بعض نقیض

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الف) $y = \sqrt{x+1} \Rightarrow y^2 = x+1$
 $\begin{cases} y_1 \leq 0 \\ y_2 \leq 0 \end{cases} \Rightarrow y_1 = y_2 \checkmark$
 $\begin{cases} y_1 \geq 0 \\ y_2 \geq 0 \end{cases} \Rightarrow y_1 = y_2 \checkmark$
 (5)

$x = \frac{y}{\sqrt{1-y^2}}$
 $\Rightarrow x^2 = \frac{y^2}{1-y^2} \Rightarrow x^2(1-y^2) = y^2$
 $x^2 - x^2 y^2 = y^2$
 $x^2 = y^2 + x^2 y^2$
 $x^2 = y^2(1 + x^2)$
 $\frac{x^2}{1+x^2} = y^2$
 $y = \pm \sqrt{\frac{x^2}{1+x^2}}$

$$y^2 + (A)^2 = F$$

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(2) $|y| \leq n \Rightarrow n \leq |y| \times \frac{\text{تبعیت}}{-}$ (4)

(3) $y^3 + 3y^2 + 3y - n^3 - n = y(y^2 + 3y + 3) - n(n^2 + 1) = \frac{B}{A} \rightarrow +$

$\Rightarrow (y+1)^3 - n^3 - n + 1$

$y = \sqrt[3]{1 - n^3 - n + 1}$ ✓

$\frac{(n+2)^2 + 1}{(n+2)^2 + 3} = \frac{(\sqrt{3})^2 + 1}{(\sqrt{3})^2 + 3} = \frac{4}{6} = \frac{2}{3}$ ✓

$y = 2n - a$
 $-f = -3 - a \Rightarrow a = 1$
 $n^3 - 1 = n^3 + n + b$
 $-f = -1 - n + b \Rightarrow b = 1$

$n^3 - 1 = n^3 + n - 1 \Rightarrow n^3 - 2n - 1 = 0$
 $n^3 - n - 1 = 0 \Rightarrow (n^2 - 1)(n+1) - (n+1)$
 $= (n+1)(n^2 - n - 1) = 0$

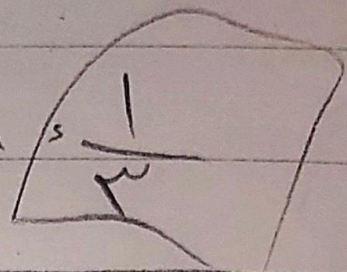
$n = \frac{1 \pm \sqrt{5}}{2} \Rightarrow \frac{1 + \sqrt{5}}{2} \text{ or } \frac{1 - \sqrt{5}}{2}$

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$$a + b \sqrt{a}, a, a, b$$

$$\dots \sqrt{a}, -a + 1, \dots \sqrt{a}, 1, a$$



$$\frac{f(x) - a + (c+1)}{bx + r}$$

$$bx + r$$

$$f(x) - a + (c+1) = bx + r \dots \left. \begin{array}{l} b : f \\ a : -r \\ c : -1 \end{array} \right\} f - f_{s0}$$

