

الف) $\begin{cases} 9 = 3x - y \\ -4 = x + 2y \end{cases} \rightarrow \begin{cases} 2x - 2y = 8 \\ x + 2y = -4 \end{cases} \rightarrow \begin{cases} 2x - 2y = 8 \\ x + 2y = -4 \end{cases} \rightarrow \begin{cases} 2x - 2y = 8 \\ x = -2 - 2y \end{cases}$

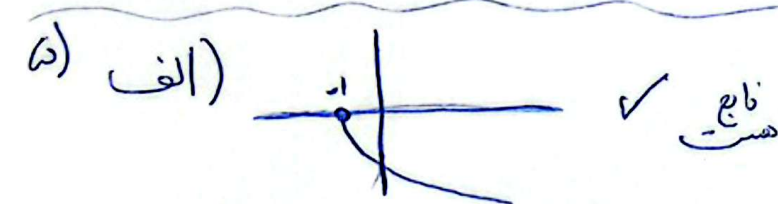
ب) $\begin{cases} \frac{1}{x} - \frac{1}{y} = -1 \\ \frac{5}{x} - \frac{y}{y} = -3 \end{cases} \rightarrow \begin{cases} \frac{y-x}{xy} = -1 \\ \frac{5y-xy}{xy} = -3 \end{cases} \rightarrow \begin{cases} y-x = -xy \\ 5y-xy = -3xy \end{cases}$

$\frac{x}{y} = \frac{1}{\frac{y}{x}} = \frac{1}{-1} = -1 \rightarrow \frac{y-x}{xy} = -1 \rightarrow \frac{y}{xy} - \frac{x}{xy} = -1 \rightarrow \frac{1}{x} - \frac{1}{y} = -1$

۲) $a+1 = -2 \rightarrow a = -3$
 $f = \{(-3, 4), (1, 2), (2, b)\}$
 $f(x) + 2f(0) = 2f(1) \rightarrow -4 + 2(b) = 2(-2) \rightarrow 2b = 0 \rightarrow b = 0$

۳) $m^2 - 3m = -2 \rightarrow m^2 - 3m + 2 = 0 \rightarrow (m-1)(m-2) = 0 \rightarrow m=1, 2$
 نقاط $(2, 2)$ و $(1, 4)$
 نقاط $(m+1, 4)$ و $(3, 4)$ (تقاطع)

الف) نیست و خط (ج) نیست
 ب) هست و خط (د) هست
 ج) هست و خط (ب) نیست
 د) هست و خط (ا) نیست



ب) $\frac{y}{\sqrt{1-y^2}} = 1 \rightarrow y = \sqrt{1-y^2} \rightarrow y^2 = 1-y^2 \rightarrow 2y^2 = 1 \rightarrow y^2 = \frac{1}{2} \rightarrow y = \pm \frac{1}{\sqrt{2}}$

(ف) $x = \sqrt[n]{a} - \sqrt[n]{b} = c \rightarrow \sqrt[n]{a} = c + \sqrt[n]{b}$ نكتب $\sqrt[n]{a} = c + \sqrt[n]{b}$

(ب) $(\sqrt[n]{a} + \sqrt[n]{b})^n - 1 = -a(\sqrt[n]{a} + 1) \rightarrow \sqrt[n]{a} = \sqrt[n]{-a(\sqrt[n]{a} + 1) + 1}$
 ~~$\sqrt[n]{a} = \sqrt[n]{-a(\sqrt[n]{a} + 1) + 1}$~~ ← موهوم ✓ e^b

(ص) $f(x) = \frac{(x^2 + 1)(x^2 + 1)^{\frac{1}{2}}}{(x^2 + 1)^{\frac{3}{2}}} \rightarrow \frac{x^2 + 1}{(\sqrt{x^2 + 1})^{\frac{3}{2}}} \rightarrow \frac{x}{\sqrt{x^2 + 1}}$

(أ) $ax - a \rightarrow -x - a = -c \Rightarrow a = -1 \rightarrow -x = -1 + b \rightarrow b = -x + 1$

$x^2 + ax + b = cx - a \rightarrow x^2 + (a - c)x + b + a \rightarrow x^2 - 2x - 1 \rightarrow$

(ب) $x^2 - 2x - 1 = (x + 1) \rightarrow x(x - 1) - (x + 1) \rightarrow x(x + 1)(x - 1) - (x + 1) \rightarrow$

$\Delta = 1 - 4(-1) \rightarrow \omega \rightarrow x^2 - 2x - 1 = 0 \rightarrow x = (x + 1)(x - 1) - 1$

$\frac{1 \pm \sqrt{5}}{2} \rightarrow$

$\frac{1 + \sqrt{5}}{2} + \frac{1 - \sqrt{5}}{2} \rightarrow$

$\frac{x}{x} = 1$

~~$a + b = \frac{a + b}{x}$~~ $a + b = ka \rightarrow a = b$ (9)

~~$\frac{a + b}{x} = \frac{a + b}{x}$~~

$a - b + 1 \rightarrow \frac{b - a + 1}{-b + 1}$

$a - \frac{b + 1}{x} = \frac{a}{x} \left. \begin{array}{l} a = 1 \\ a = \frac{1}{x} \end{array} \right\}$

$\frac{ax^2 - ax + c + 1}{bx^2 + cx} = 1 \rightarrow \frac{ax^2 - ax + c + 1}{bx^2 + cx} = 1$ ← $f = x$ (10)

$b = f, a = -f$

$c + 1 = 0 \rightarrow c = -1$

$a + b + c \rightarrow f - f - 1 \rightarrow -1$