

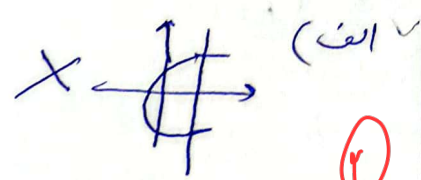
الف)
$$\begin{cases} 2x - y = 9 \\ x + 2y = -4 \end{cases} \quad \text{در } x = 1 \rightarrow y = -3 \text{ و } x = 2 \rightarrow y = -3 \rightarrow \frac{x}{y} = \frac{2}{-3}$$

ب)
$$\frac{1}{x} - \frac{1}{y} = -1 \quad \frac{a}{x} - \frac{y}{y} = -3 \rightarrow y = -1, x = \frac{1}{2}$$

$$\frac{y-x}{xy} = -1 \quad \frac{ay - y^2}{xy} = -3 \rightarrow \frac{x}{y} = \frac{1}{2}$$

$$\begin{aligned} a+1 &= -2 \rightarrow a = -3 \\ 2a + 2b &= 3a + 3 \\ -5 + 2b &= -9 + 3 - 2 \\ 2b &= 0 \rightarrow \boxed{b = 0} \end{aligned}$$

$$\begin{aligned} m^2 - 3m &= -2 \\ m^2 - 3m + 2 &= 0 \\ (m-2)(m-1) &= 0 \\ m &= 2 \text{ یا } 1 \rightarrow \boxed{m = 2} \end{aligned}$$



الف) $x = 1$ و $x = 2$ در $n=0$ و $n=1$ و $n=2$ در x \rightarrow تابع است به مدل $|n| = 0$ \checkmark

الف)
$$y_1 = y_2 \rightarrow y_1 = -\sqrt{n+1} \quad \checkmark$$

$$y_2 = -\sqrt{n+1}$$

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

$$n^2 = y^2(1+n^2) \rightarrow \frac{n^2}{1+n^2} = y^2 \rightarrow y = \frac{n}{\sqrt{1+n^2}}$$

$$1-y^2 > 0 \rightarrow 1 > y^2$$

\checkmark تابع است

تعیین \times \rightarrow اولاً $y = -1$ \rightarrow آخره \rightarrow با همزنای (الف)

ب) $y^3 + 3y^2 + 2y = -n - n^3$

$y(y^2 + 3y + 2) = -n(1 + n^2) \rightarrow$

$\frac{n^3 + 3 - \sqrt{3n^2} + \sqrt{3n^2} - n + 1}{n^3 + 3 - \sqrt{3n^2} + \sqrt{3n^2} - n + 1} = \frac{3}{3} = \boxed{\frac{3}{3}}$

$\frac{n^3 + 3 - \sqrt{3n^2} + \sqrt{3n^2} - n + 1}{n^3 + 3 - \sqrt{3n^2} + \sqrt{3n^2} - n + 1} = \frac{3}{3} = \boxed{\frac{3}{3}}$

~~$\frac{1}{2} + \frac{1}{2} = 1$~~

$-3 + 3 = -a \rightarrow a = 1$

$n^3 + a + b = 3n - 1$

$n^3 + n - 3 = 3n - 1$

$n^3 - 2n - 1 = 0$

$-1 - a + b = -3$

$b = -2$

$n^3 + n - 3 = 3n - 1$

$(n-1)(n^2 + n + 2) = 0$

\rightarrow جواب اول $= \boxed{1}$

$a + b = 3a \rightarrow b = 2a$

$3a = a - 2b + 1$

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

$3b = 1$

$b = \frac{1}{3} = a$

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

$-1 + 3a - 3c - 3 = -3b - 3$

$\rightarrow 1 - c - 1 = 3b$

$\frac{15 - 3a + c + 1}{3b + 3} = 3 \rightarrow 15 - 3a + c + 1 = 9b + 9$

$\rightarrow 3 - 3b = c$

$a + b + c = 0$

$\rightarrow b = 3, c = -1, a = -3$

$\frac{37 - 3a + c + 1}{3b + 3} = 3 \rightarrow 37 - 3a + c + 1 = 9b + 9$

$\frac{37 - 3a + c + 1}{3b + 3} = 3 \rightarrow 37 - 3a + c + 1 = 9b + 9$

$\rightarrow 37 - 3a + c + 1 = 9b + 9$
 $37 - 3a + c = 9b + 8$