

Subject: _____
Year: _____ Month: _____ Day: _____

الف) $\begin{cases} 2x - y = 9 \\ x + 2y = -4 \end{cases} \Rightarrow \begin{cases} 2x = 14 \\ x = 7 \end{cases} \Rightarrow \begin{cases} y = 5 \\ y = -3 \end{cases} \Rightarrow \frac{x}{y} = \frac{7}{-3} \checkmark$ (1)

$\frac{y-x}{xy} = -1 \Rightarrow y-x = -xy \Rightarrow x-y = xy$
 $\frac{dy-vx}{xy} = \frac{v}{y} \Rightarrow \frac{dx}{x} = \frac{v}{y} \Rightarrow \frac{dx}{x} = \frac{1}{y} \Rightarrow \ln|x| = \ln|y| \Rightarrow \frac{x}{y} = \frac{1}{y} \checkmark$ (2)

$a+1 = -2$
 $2a = -3$
 $f(x) = -4 = 2f(x) + -4 \Rightarrow f(x) = 0 = b \checkmark$ (2)

$m^2 - 3m = -2 \Rightarrow m^2 - 3m + 2 = 0$
 $(m-1)(m-2) = 0 \Rightarrow m = 1, 2$
 عقده $f(x) < 4$
 عقده $f(x) < 4$
 هیچ نقطه (3)

الف) \checkmark (2)

الف) $\begin{cases} y = \sqrt{x+1} \\ y_1^2 = x+1 \\ y_2^2 = x+1 \end{cases} \Rightarrow \begin{cases} y_1 \leq 0 \\ y_2 \leq 0 \end{cases} \Rightarrow y_1 = y_2 \checkmark \checkmark$ (4)

$x = \frac{y}{\sqrt{1-y^2}} \Rightarrow x^2 = \frac{y^2}{1-y^2} \Rightarrow x^2(1-y^2) = y^2 \Rightarrow x^2 - x^2y^2 = y^2 \Rightarrow x^2 = y^2 + x^2y^2 \Rightarrow x^2 = y^2(1+x^2) \Rightarrow \frac{x^2}{1+x^2} = y^2 \Rightarrow y = \pm \frac{x}{\sqrt{1+x^2}}$
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 $|y_1| = |y_2| \Rightarrow y_1 = y_2 \rightarrow$ (5)

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

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(2) $|y| \leq n \Rightarrow n \leq |y+1| \times \frac{1}{\sqrt{2}}$ (4)

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

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

$y = \sqrt[3]{1 - n^3 - n + 1}$

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

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

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

$-f = -1 - n + b \Rightarrow b = 1$

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

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

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

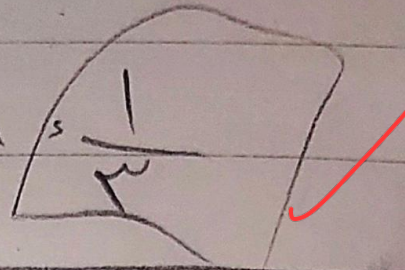
$n = \frac{1 \pm \sqrt{5}}{2} \Rightarrow \frac{1 + \sqrt{5}}{2} \text{ or } \frac{1 - \sqrt{5}}{2}$

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

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



(y)

(9)

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

$$bx + p$$

(y)

(10)

$$f(x) - a + (c+1) \dots bx + p \dots \left. \begin{matrix} b \dots f \\ a \dots - \\ c \dots -1 \end{matrix} \right\}$$

