

۱۴۱۷۵

الف) $(13x + y = 9) \times 2$
 $2x + 2y = -4$
 $+ \begin{matrix} 4x - 2y = 18 \\ \hline 6x = 14 \end{matrix}$
 $x = \frac{14}{6} = \frac{7}{3}$
 $2x = 2$
 $y \rightarrow 2 + 2y = -4$
 $2y = -6 \rightarrow y = -3$

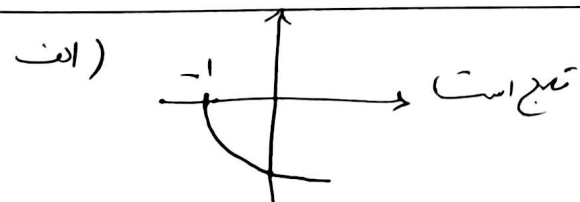
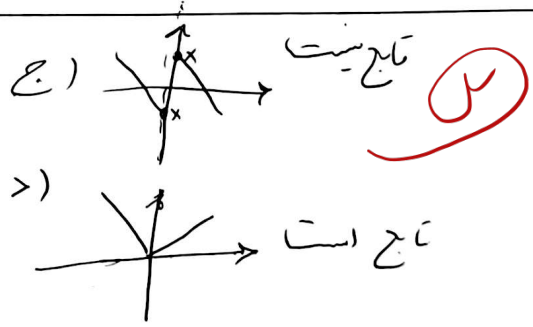
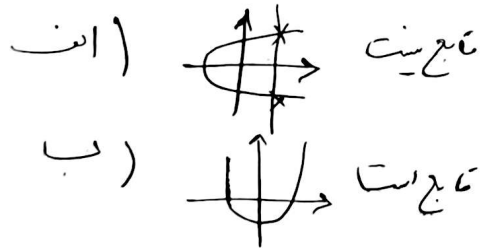
ب) $\frac{1}{x} - \frac{1}{y} = -1 \quad \frac{y-x}{xy} = -1$
 $\frac{5}{x} - \frac{1}{y} = -3 \quad \frac{5y-7x}{xy} = -3$
 $\frac{y-x}{xy} \times \frac{xy}{5y-7x} = \frac{1}{3}$
 $3y - 3x = 5y - 7x \quad \frac{x}{y} = \frac{1}{2}$
 $4x = 2y$

$2a + 2b = 3a + 3$ $2b = a + 3$
 $a + 1 = -2$ $2b = -3 + 3$
 $a = -3$ $2b = 0$
 $b = 0$

D

$m^2 - 2m = -2$
 $m^2 - 2m + 2 = 0$
 $(m-1)(m-2) = 0$
 $m = 1 \rightarrow (m+1, 4) = (2, 4)$
 $m = 2 \rightarrow (2, 4) \times$
 $(m^2+2, m+1) = (2, 4)$ برای هیچ مقدار a

D



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

حل قسمت ب = $\frac{y_1}{\sqrt{1-y_1^2}} = \frac{y_2}{\sqrt{1-y_2^2}} = \frac{y_1}{\sqrt{1-y_1^2}} = \frac{y_2}{\sqrt{1-y_2^2}}$
 $\frac{y_1^2}{1-y_1^2} = \frac{y_2^2}{1-y_2^2} \rightarrow y_1^2 - y_1^2 y_2^2 = y_2^2 - y_1^2 y_2^2$
 $y_1^2 - y_2^2 = y_1^2 y_2^2 - y_1^2 y_2^2 \rightarrow y_1^2 = y_2^2 \rightarrow (y_1, 1) = (y_2, 1)$

الف) $x=1$, $|y|=1$, $y=\pm 1$ تابع سینوس

ب) $y^{r+1} + y^r + y + 1 = \lim_{n \rightarrow \infty} (y+1)^n - x^{r-n} - 1 = 0$

$y = \sqrt[r]{-x^{r-n} - 1}$

تابع است x در $x=1$ معادله

6

~~$\frac{x^r + x - x\sqrt[r]{x} + x\sqrt[r]{x} - 1 + x}{x^r + x - x\sqrt[r]{x} + x\sqrt[r]{x} - 1 + x} = \frac{x}{-1} = \frac{1}{r}$~~

$x^r + x + u + v = (x+1)^r + 1$

$x^r + x + u + v = (x+1)^r + x^m$

$x = \sqrt[r]{x^m - x + 1} \rightarrow \frac{(\sqrt[r]{x^m - x + 1})^r + 1}{(\sqrt[r]{x^m - x + 1})^r + x^m} = \frac{x}{x} = \frac{1}{x^m}$

7

$y = x^m - a$

$-f_s - r = -1 \rightarrow a = 1 \Rightarrow y = x^m - 1$

$-f = -1 - 1 = -2 \rightarrow b = -r \Rightarrow y = x^m + a - r$

$x^r - rx - 1 = 0 \Rightarrow (x+1) = (x^r - m - 1)$

$(x+1)(x^r - m - 1)$

$x_1 + x_2 = \frac{1 + \sqrt{\Delta} + 1 - \sqrt{\Delta}}{r} = \frac{2}{r} = 1$

8

$a + b = ra$

$a = b$

~~$-rb + 1 = ra$~~

~~$-ra - ra = -1$~~

$ra = 1$

$a = \frac{1}{r}$

$a + b = a - r(b + 1)$

$rb = 1 \rightarrow b = \frac{1}{r}$

$a + b = ra \rightarrow a = b = \frac{1}{r}$

9

~~$\frac{f(x) = ax^r + bx + c}{bx + r} = x$~~

$\frac{fx^r - ax + c + 1}{bx + r} = x$

$fx^r - ax + c + 1 = bx^r + rm$

$\rightarrow b = r$

$a = -r$

$c = -1$

$a + b + c = 0$

$1, v, w$

10

