

الف) $\vartheta = \sqrt{x_1^2 + x_{n-1}^2} \rightarrow x, \vartheta_1 \left\{ \begin{array}{l} x_1^2 = x_{n-1}^2 \dots \rightarrow \sqrt{x_1^2 + x_{n-1}^2} = \sqrt{x_1^2 + x_{n-1}^2} \\ \vartheta_1 = \vartheta \end{array} \right.$

ب) $x = \frac{\pi}{r} \rightarrow \frac{\pi}{r} \cos \vartheta = 0$

$\vartheta = k\pi + \frac{\pi}{r}$

۲) $x^2 + rxy + y^2 = fxy$

$x^2 - rxy + y^2 = 0$

$x = y$

~~$x^2 + rxy + y^2 = fxy$~~

~~$\vartheta = \frac{x^2 + rxy}{x^2 + y^2}$~~

۱) $x = \frac{r}{r^2 + 1} \vartheta$

$x = \vartheta$

الف) ~~$x = 1, y = 1, \vartheta = 1$~~

$\left\{ \begin{array}{l} x, \vartheta_1 \\ x, \vartheta_1 \end{array} \right. \rightarrow \begin{array}{l} x = y \\ x^2 = y^2 \\ b \\ \vartheta_1 = \vartheta \end{array}$

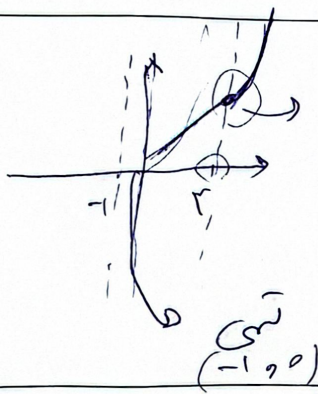
$\vartheta > 0 \rightarrow x^2 = y^2$

~~$\vartheta < 0 \rightarrow x^2 = y^2$~~

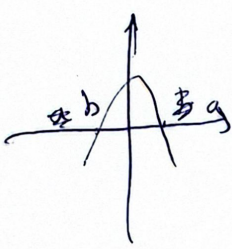
ب) $x = 0 \rightarrow \vartheta \in [1, 2)$

$\left\{ \begin{array}{l} x, \vartheta_1 \\ x, \vartheta_1 \end{array} \right. \rightarrow \begin{array}{l} x = y \\ x^2 = y^2 \\ b \\ \vartheta_1 = \vartheta \end{array}$

~~$x = y$~~



$1 - b = a + 4 \rightarrow a + b = 1$



$\left\{ \begin{array}{l} -b - a = 0 \rightarrow 1 - b - a = 0 \\ a - b - b = 0 \rightarrow a - 2b = 0 \end{array} \right. \rightarrow \begin{array}{l} -2b^2 - b + 1 = 0 \\ -1 \end{array}$

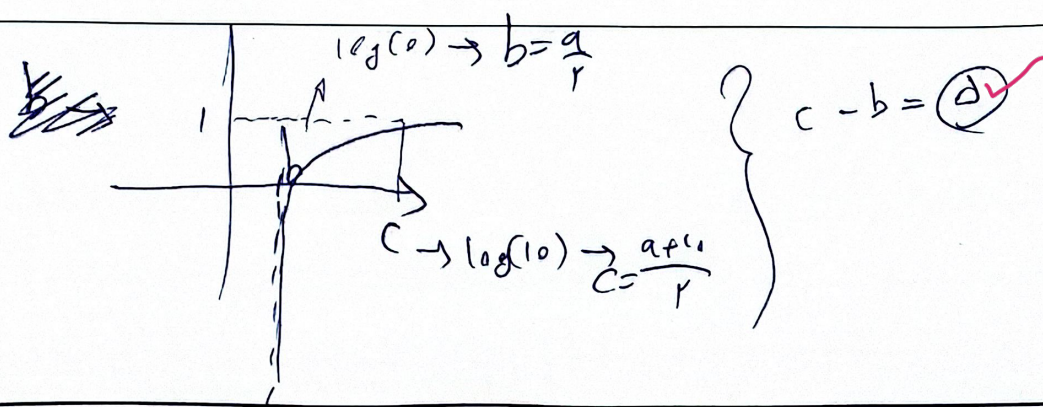
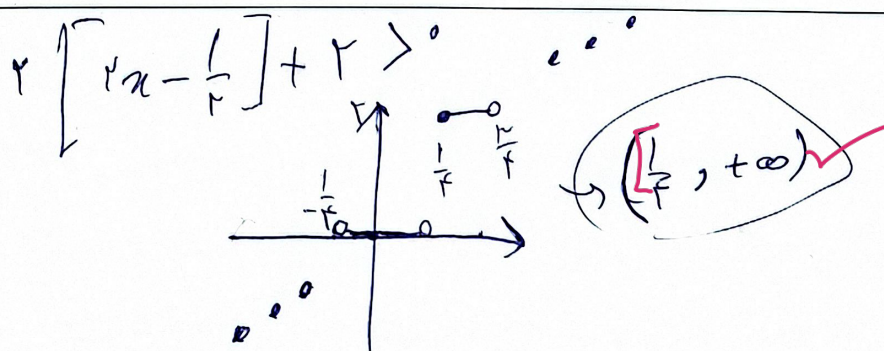
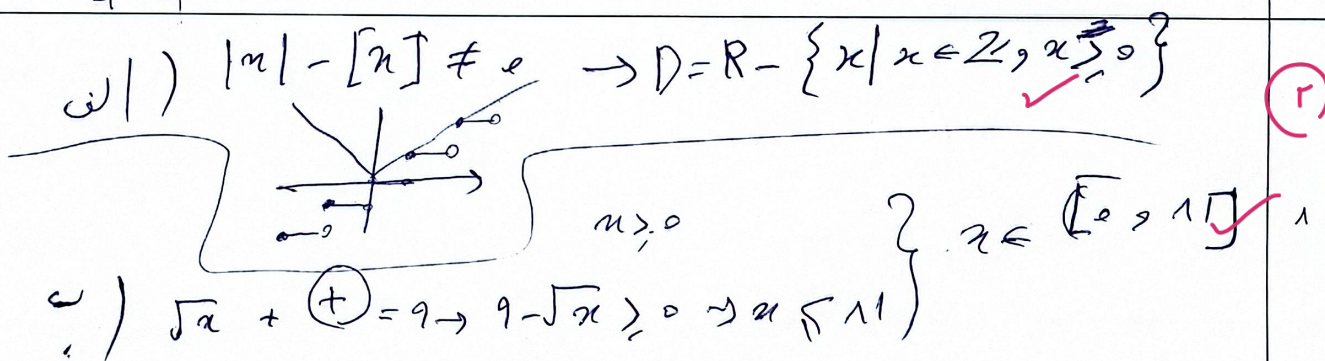
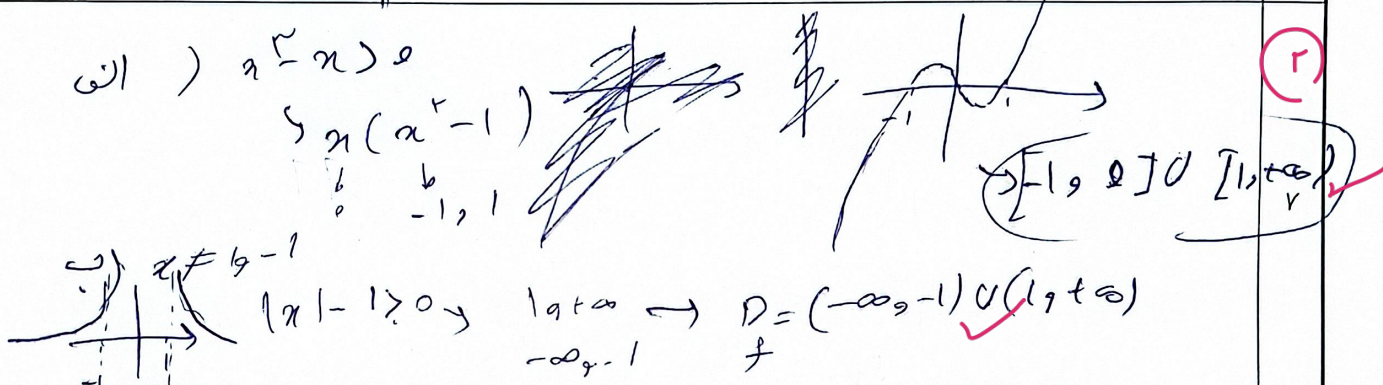
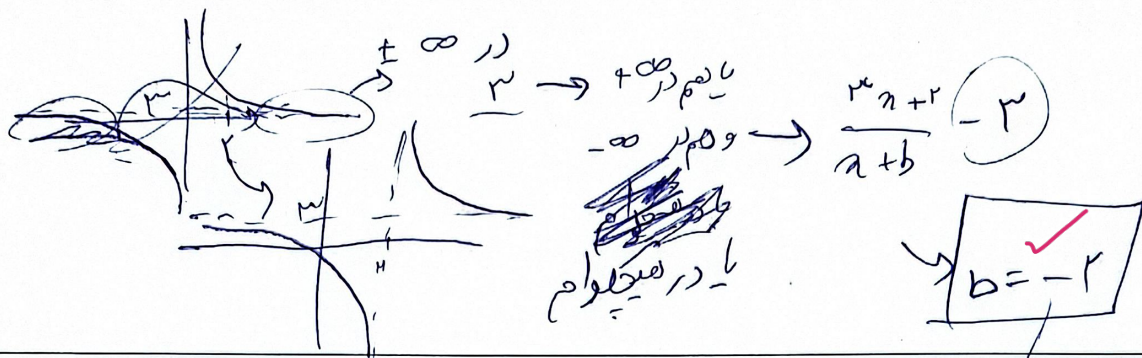
$b = -1, a = 2 \rightarrow a + b = 1$

$\sqrt{bx + c}$

$x = 0$

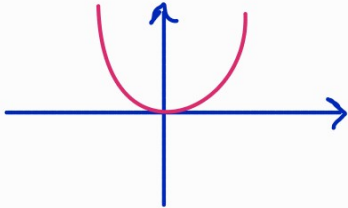
$\frac{-rb + \Gamma b}{x + c - c/b} = b$

$rb + c = 0 \rightarrow b < 0$



۲- طرف چپ تساوی همواره مثبت است پس طرف راست هم باید مثبت باشد: $y > 0$

الف) $|y| + x^2 = 2y \xrightarrow{y > 0} y = x^2$



تابع
مربع

۹- $\left[2x - \frac{1}{x}\right] + \left[2x + \frac{4}{x}\right] > 0 \rightarrow \left[2x - \frac{1}{x}\right] + \left[2x - \frac{1}{x} + 2\right] > 0$

$2\left[2x - \frac{1}{x}\right] + 2 > 0 \rightarrow \left[2x - \frac{1}{x}\right] > -1 \rightarrow 2x - \frac{1}{x} \geq 0 \rightarrow x \geq \frac{1}{4}$

$D = \left[\frac{1}{4}, +\infty\right)$