

۱) $y^3 - u = 2u^2 \Rightarrow y^3 = 2u^2 + u \quad y = \sqrt[3]{2u^2 + u}$ ✓

ب) $|y| + u^2 = u + 3 \Rightarrow |y| = -u^2 + u + 3$ $|y| = 3 \Rightarrow y = 3 \text{ یا } y = -3$

ج) $\sqrt{u-2} + |y-2| = 0$ $\sqrt{u-2} \geq 0$ $|y-2| \geq 0$
 $\sqrt{u-2} = 0 \Rightarrow u = 2$ $|y-2| = 0 \Rightarrow y = 2$ (۲, ۲) ✓

د) $u = \cos y$ $u = 1$ $\cos y = 1$ $y = 0, 2\pi, 4\pi, \dots$

(۳, ۱) $(y=1) \Rightarrow u=1$

(الف)

$y - y_1 = m(u - u_1)$

(ب)

$y - 2 = 2(u - 1)$

$y - 2 = 2u - 2$

$y = 2u$



الف) $y = au + b$ $y = u$ $a = 1$ $b = 0$

$a + 2b = 1 + 2(0) = 1$

ب) $y = u^2 + au + b$

$1 = 2^2 + (-2)(2) + b$

$1 = 4 - 4 + b$

$1 = b$

$b = 1$

$\frac{y}{u} = -\frac{a}{2} \quad -\frac{a}{2} = 2 \quad a = -4$

$a + 2b = -4 + 2(1)$

$a + 2b = -2$

$y = 2u + 1$

الف: ۲
عوض از متغیر ۱

(الف)

$\begin{array}{c|ccc} u & -1 & 0 & 1 \\ \hline y & 1 & 1 & 3 \end{array}$

$(-1, 1) (0, 1) (1, 3)$

$y = u^2$

$(0, 0)$

(ج) ۴

$y = -3u + 1$

الف: ۳
عوض از متغیر ۱

ب) $\begin{array}{c|cccc} u & -2 & -1 & 0 & 1 \\ \hline y & 4 & 1 & 0 & 1 \end{array}$

$\begin{array}{c|ccc} u & -1 & 0 & 1 \\ \hline y & 4 & 1 & -2 \end{array}$

$(-1, 4) (0, 1) (1, -2)$

$(-2, 4) (-1, 1) (0, 0) (1, 1) (2, 4)$

(3) (K)

جواب)

$$y = |x - 2| + 3$$
$$\begin{cases} -x + 0 & x < 2 \\ x + 1 & x \geq 2 \end{cases}$$

$x - 2$ $\xrightarrow{\text{موجب}}$ x
+ 3 $\xrightarrow{\text{موجب}}$ $(2, 3)$

$$(-\omega, 1)$$

$y = \frac{n+2}{n^2 - \sqrt{n} + 14}$ $n^2 - \sqrt{n} + 14 \neq 0$ (ب) $y = \frac{n+2}{n^2 - \sqrt{n}}$ $n^2 - \sqrt{n} = n(n - \frac{1}{\sqrt{n}})$ (الف) (9)

$u \neq 0$ $u \neq r$

$$D = R \setminus \{0, 1, 2\}$$

b) $y - \frac{u_1 f}{u_1^2 + u_2^2}$ 12

$D = \mathbb{R}$

$$a^2 + a + 1 = 0$$

$$\Delta = 1 - f(1)(f) = 1 - 14 = -13$$

$$2r(u-r)(u+r) \neq 0 \quad u \neq 0 \mid u \neq r \mid u \neq -r$$

$$D = \mathbb{R} \{ -r, 0, r \}$$

$$y = \frac{\sqrt{u} - 2}{u - 2}$$

$$u \geq 0$$

$$u - F \neq 0 \Rightarrow u \neq \xi$$

$$D = [0, K) \cup (K, +\infty)$$

(2. $y = \frac{r_{n+1}}{2^{r_{n+1}}}$
 $2^{r_{n+1}} > 0$
 $D = R$

1. $y = \sqrt{4-x} + \sqrt{x-2}$

$$4 - a \geq 0 \Rightarrow a \leq 4$$

$$u - r \geq 0 \Rightarrow u \geq r$$

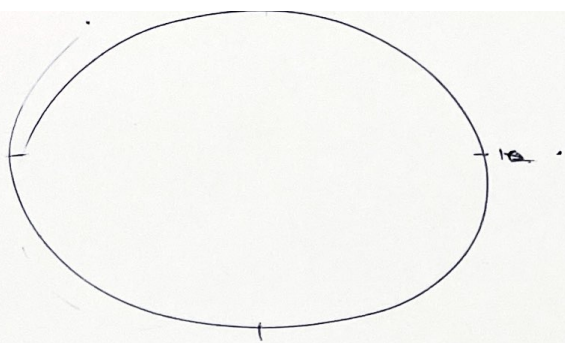
$$D = [2, 4]$$

$$y = \frac{r_{01} + r}{|r_{01}| + 4r}$$

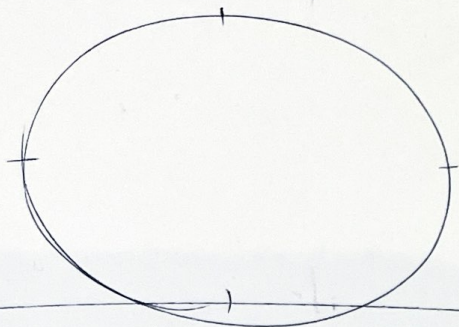
$$|u| + u^r \neq 0$$

$$D = R \setminus \{0\}$$

$$(-\infty, 0) \cup (0, +\infty)$$



1



1a

$$\cos \frac{\pi}{4} = \Rightarrow \cos \frac{\pi}{4} = \frac{1}{\sqrt{2}} \quad \sin \frac{\pi}{4} = \frac{1}{\sqrt{2}} \quad \sin \frac{5\pi}{4} = -\frac{1}{\sqrt{2}}$$

$$\frac{7\pi}{4}, \frac{0\pi}{4} \quad (k \in \mathbb{Z})$$

(1.1.1)

$$\cos\left(\frac{4\pi}{4}\right) = \frac{\sqrt{2}}{2}$$

$$\sin \Theta = \frac{\sqrt{2}}{2} \Rightarrow \Theta = \frac{\pi}{4}, \frac{3\pi}{4}$$

(2)