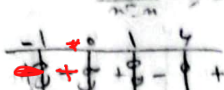
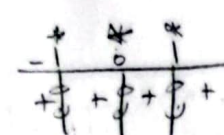
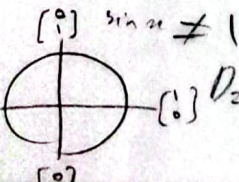
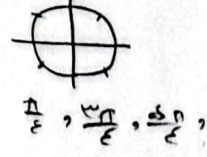
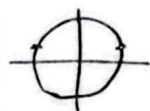


الف) $x(x-4)$ $x=4,0$  $x(x^2-1)$ $(x-1)(x+1)$ ب) $x^3(x^2-1)$ $(x^2-1)(x+1)$ $(x-1)(x+1)(x+1)$  $(-\infty, -1) \cup (-1, 0) \cup (0, 1) \cup (1, +\infty)$	۱
الف) $x+1 > 0$ $x < -1$ $x < -x$ $-x+x < 0$ $x > 0$ $D_f = (0, +\infty)$ ب) $\frac{1}{\sqrt{x x }} > 0$ $x x > 0$ $x < -x$ $-x < 0$ $x > 0$ $x^2 > 0$	۲
الف) $x-2 > 0$ $x > 2$ $x < 2$ $(-\infty, 2)$	ب) $x-2 > 0$ $x < 2$ $x < 2$ $(-\infty, 2)$
الف) $\left[\frac{x}{1+x} \right] + \left[\frac{x+1}{x} \right] \geq 0$ $x < \frac{1}{x}$ $x < 1$ $x \geq \frac{1}{x}$ $x \geq 1$ ب) $\left[\frac{x-1}{x} \right] + \left[\frac{-x+1}{x} \right] \geq 0$ $A + (-A) = 0$ $D_2 \left\{ x \in \mathbb{R} \mid \frac{x-1}{x} \in \mathbb{Z} \right\}$ $\left[\frac{x-1}{x} \right] \geq \frac{1}{x} \rightarrow x-1 \geq 0 \rightarrow x \geq 1$	۴
الف) $\sin x = 1$ $\sin x - 1 \neq 0$ $\sin x \neq 1$ $D_2 = \mathbb{R} \setminus \left\{ 2k\pi + \frac{\pi}{2} \mid k \in \mathbb{Z} \right\}$ 	ب) $\sin^2 x \neq 1$ $\sin^2 x \neq 1$ $\sin x \neq \pm 1$ $\sin x \neq \pm \frac{\sqrt{2}}{2}$  $D_2 = \mathbb{R} \setminus \left\{ \frac{\pi}{4} + \frac{k\pi}{2} \mid k \in \mathbb{Z} \right\}$

الف) $\sqrt{y} \sin x - 1 \geq 0$
 $\sin x \geq \frac{1}{\sqrt{y}}$



$D \subset \mathbb{R} : \left[\frac{\pi}{2} + 2k\pi, \frac{3\pi}{2} + 2k\pi \right] \mid k \in \mathbb{Z}$

(C) ✓

الف)

$\frac{1}{\sqrt{y}} \mid -\pi \leq x \leq \pi$
 $-\pi \cos x \leq 1$

$x \in [-\pi, -\frac{\pi}{2}] \cup [\frac{\pi}{2}, \pi]$

✓

1, IV

$-1 \leq \frac{1}{\sqrt{y}} + \cos x + 1 \leq 1$
 $-2 \leq \cos x + \frac{1}{\sqrt{y}} \leq 0$
 $\cos x \leq -\frac{1}{\sqrt{y}}$
 $x \in [-\pi, -\frac{\pi}{2}] \cup [\frac{\pi}{2}, \pi]$
 $D \subset \mathbb{R} : [-\pi, -\frac{\pi}{2}] \cup [\frac{\pi}{2}, \pi]$

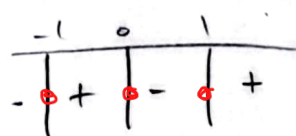
الف) $x - \log_y (n-x) \geq 0$

$\log_y (n-x) \leq x$

$n-x \leq y^x$
 $n-x > 0$
 $x > 0$
 $D \subset \mathbb{R} : (0, 1]$

1, IV

ب) $\log (n-x)$
 $n(n-1) > 0$
 $n \geq 1$
 $n \geq 1, 0$



$D \subset \mathbb{R} : (-1, 0) \cup (1, +\infty)$

الف)

$\frac{w}{\epsilon^n + 1}$
 $\epsilon^n + 1$
 $\epsilon^n \neq -1$
 $D \subset \mathbb{R}$

ب) $\epsilon^n - 1 \neq 0$
 $\epsilon^n \neq 1$
 $n \neq 0$
 $(-\infty, 0) \cup (0, +\infty)$

(C) ✓

ج)

$\epsilon^n - w \neq 0$
 $\epsilon^n \neq w$
 $\epsilon^n \neq y$
 $n \neq \log_y w$
 $n \neq \log_y \frac{1}{y} = -\frac{1}{y}$
 $n \neq -\frac{1}{y}$
 $(-\infty, -\frac{1}{y}) \cup (-\frac{1}{y}, +\infty)$

الف)

$\epsilon_{n+1} \in \{0, 1, 2, \dots\}$
 $\epsilon_n \in \{-1, 0, 1, \dots\}$
 $a \in \{-\frac{1}{2}, 0, \frac{1}{2}, \dots\}$
 $D \subset \mathbb{R} : \left\{ \frac{a-1}{\epsilon} \mid a \in \mathbb{W} \right\}$

(C) ✓

ب)

$\frac{r_{n-1}}{r_{n-2}} \in \mathbb{W}$
 $r_{n-1} \in r_{n-2} \mathbb{W}$
 $r_n - r_{n-1} = -\alpha r_{n-1} + r$
 $r = \frac{-\alpha r_{n-1} + r}{r_{n-1} - r_{n-2}}$
 $D \subset \mathbb{R} : \left\{ a \mid a = \frac{-\alpha k + r}{r_{n-1} - r_{n-2}} \right\}$