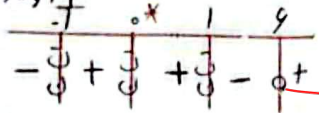
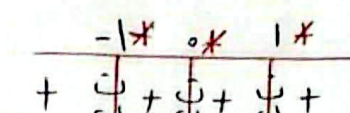
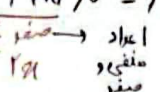
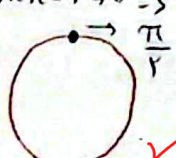
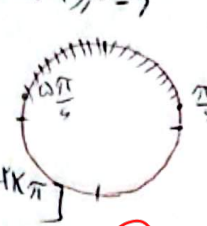


الف) $y = \sqrt{\frac{x^2-4x}{x^2-x}} \Rightarrow \frac{x^2-4x}{x^2-x} \geq 0, x^2-x \neq 0$ $x^2-x \neq 0 \Rightarrow x \neq \{0, 1\}, \frac{x(x-4)}{x(x-1)} \geq 0 \Rightarrow x \in \{x x < 0 \text{ or } 1 < x < 4\}$  $D = (-\infty, 0) \cup (1, 4) \cup (4, +\infty)$	ب) $y = \sqrt{\frac{x^2-x^3}{x^3-x}} \Rightarrow \frac{x^2-x^3}{x^3-x} \geq 0, x^3-x \neq 0$ $x^3-x \neq 0 \Rightarrow x \neq \{0, 1\}, \frac{x^2(1-x)}{x(x-1)(x+1)} \geq 0$  $D = (-\infty, 0) \cup (1, +\infty)$
الف) $\frac{x+1}{\sqrt{x+1}} \Rightarrow x+1 \neq 0, x+1 \geq 0$ $x+1 \geq 0 \Rightarrow D = [0, +\infty)$ 	ب) $\frac{1}{\sqrt{x x }} \Rightarrow x x > 0$ $-x^2 < x^2 \Rightarrow x^2 > 0, -x^2 < 0$ $D = (0, +\infty)$
الف) $y = \sqrt{2-[x]} \Rightarrow 2-[x] \geq 0$ $[x] \leq 2 \Rightarrow x \in (-\infty, 3)$ $D = (-\infty, 3)$	ب) $\frac{1}{\sqrt{2-[x]}} \Rightarrow 2-[x] > 0$ $[x] < 2 \Rightarrow x \in (-\infty, 2)$ $D = (-\infty, 2)$
الف) $y = \sqrt{[x-\frac{1}{3}]+[2+\frac{2}{3}]} \Rightarrow [x-\frac{1}{3}]+[2+\frac{2}{3}] \geq 0$ $[x-\frac{1}{3}] + [2+\frac{2}{3}] \geq 0 \Rightarrow [x-\frac{1}{3}] \geq -[2+\frac{2}{3}]$ $[x-\frac{1}{3}] \geq -3 \Rightarrow x \geq -\frac{10}{3}$ $D = [-\frac{10}{3}, +\infty)$	ب) $y = \sqrt{[x-\frac{1}{3}]+[-x+\frac{1}{3}]} \Rightarrow [x-\frac{1}{3}]+[-x+\frac{1}{3}] \geq 0$ $[x-\frac{1}{3}]-[x-\frac{1}{3}] \geq 0 \Rightarrow 0 \geq 0$ $D = \mathbb{Z}$
الف) $y = \frac{1}{\sin x-1} \Rightarrow \sin x-1 \neq 0$ $\sin x \neq 1 \Rightarrow x \neq \frac{\pi}{2}$  $D = \mathbb{R} - \{\frac{\pi}{2} + 2k\pi\}$	ب) $\frac{1}{1-\sin^2 x} \Rightarrow 1-\sin^2 x \neq 0$ $\sin^2 x \neq 1 \Rightarrow \sin x \neq \pm 1$ $D = \mathbb{R} - \{\frac{\pi}{2} + k\pi\}$

الف) $y = \sqrt{r \sin x - 1} \Rightarrow r \sin x - 1 \geq 0 \Rightarrow$ $r \sin x \geq 1 \Rightarrow \sin x \geq \frac{1}{r}$ $D = \left[\frac{\pi}{4} + 2k\pi, \frac{3\pi}{4} + 2k\pi \right]$  (2) ✓	ب) $y = \sqrt{\cos x - 1} \Rightarrow \cos x - 1 \geq 0 \Rightarrow$ $\cos x \geq 1 \Rightarrow$ $D = \{2k\pi\}$	6
الف) $\cos y = x - 3 \Rightarrow -1 \leq x - 3 \leq 1$ $x - 3 \leq 1 \Rightarrow x \in [2, 4]$ $D = [-4, -2] \cup [2, 4]$ (1, 2) ✓	ب) $y = \arcsin(x^r + r^n + 1)$ $-1 \leq x^r + r^n + 1 \leq 1 \Rightarrow x^r + r^n \in [-2, 0]$ $x^r + r^n \leq 0 \Rightarrow x(x + r) \leq 0 \Rightarrow -r \leq x \leq 0$ $x \geq -r \leq x \Rightarrow -1 \Rightarrow D = [-r, -1] \cup [-1, 0]$	7
الف) $\sqrt{r - \log_p(n - r)} \Rightarrow n - r \geq 0 \Rightarrow$ $n \geq r \Rightarrow r - \log_p n - r \geq 0 \Rightarrow \log_p n \leq r$ $n - r \leq r^r \Rightarrow n - r \leq r^r \Rightarrow n \leq 11$ $D = (r, 11]$	ب) $y = \log_{10}(x^r - n) \Rightarrow x^r - n > 0 \Rightarrow$ $x(x - 1)(x + 1) > 0$ $-1 < x < 0 \Rightarrow D = (-1, 0) \cup (1, +\infty)$ (2) ✓	8
الف) $\frac{r}{\varepsilon^{n+1}} \varepsilon^n + 1 \neq 0 \Rightarrow \varepsilon^n \neq -1 \Rightarrow$ $D = \mathbb{R}$ (2) ✓	ب) $\frac{r}{\varepsilon^{n+1}} \Rightarrow \varepsilon^n - 1 \neq 0 \Rightarrow \varepsilon^n \neq 1 \Rightarrow$ $n \neq 0 \Rightarrow D = \mathbb{R} - \{0\}$	9
ج) $\frac{r}{\varepsilon^{n+1}} \Rightarrow \varepsilon^{n+1} \neq 0 \Rightarrow \varepsilon^n \neq r \Rightarrow$ $n \neq \log \frac{r}{\varepsilon} \Rightarrow D = \mathbb{R} - \left\{ \log \frac{r}{\varepsilon} \right\}$	د) $\frac{r}{\varepsilon^{n+1}} \Rightarrow \varepsilon^n - r \neq 0 \Rightarrow \varepsilon^n \neq r \Rightarrow$ $n \neq \log \frac{r}{\varepsilon} \Rightarrow D = \mathbb{R} - \left\{ \log \frac{r}{\varepsilon} \right\}$	10
الف) $y = (r^n + 1)! \Rightarrow r^n + 1 \in \mathbb{W} \Rightarrow$ $r^n \in \mathbb{W} - 1 \Rightarrow n \in \frac{\mathbb{W} - 1}{r}$ $D = \left\{ \frac{k-1}{r} \mid k \in \mathbb{W} \right\}$ (1, 2) ✓	ب) $\left(\frac{r^n - r}{r^n - \omega} \right)! \Rightarrow n = -\frac{-\omega W + r}{r W - r} \Rightarrow$ $D = \left\{ \frac{-\omega W + r}{r W - r} \mid k \in \mathbb{W} \right\}$	11