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$$\text{الف) } y = \frac{x+2}{x^2+2x^2-11x+2} \Rightarrow (x^2+2x^2-11x+2) \rightarrow (x-1)(x+2)(2x-1)$$

$\hookrightarrow x=1 \quad \hookrightarrow x=-2 \quad \hookrightarrow x=\frac{1}{2}$

$$D = \mathbb{R} - \left\{-2, 1, \frac{1}{2}\right\}$$

$$\text{ب) } y = \frac{x+2}{x^2+9x^2+10x+2} \Rightarrow (x^2+9x^2+10x+2) \rightarrow (x+1)(x+2)(2x+1)$$

$\hookrightarrow x=-1 \quad \hookrightarrow x=-2 \quad \hookrightarrow x=-\frac{1}{2}$

$$D = \mathbb{R} - \left\{-2, -1, -\frac{1}{2}\right\}$$

$$\text{الف) } y = \frac{x+2}{x^2-2x^2+2x-1} \rightarrow (x^2-2x^2+2x-1) = (x-1)(x^2-x+1)$$

$\hookrightarrow \text{مميز صفر}$

$$D = \mathbb{R} - \{1\}$$

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

$\hookrightarrow \text{مميز صفر}$

$$\frac{x+2}{x-1} \geq 0 \text{ if } x \neq 1$$

$$D = (-\infty, -2] \cup (1, +\infty)$$

$$y = \frac{2}{x^2 - \delta|x-1| - 2x + \delta} \rightarrow x^2 - \delta|x-1| - 2x + \delta = (x-1)^2 - \delta|x-1| + \delta$$

$T = x-1$

$$T^2 - \delta T + \delta = 0 \rightarrow (T-1)(T-\delta) = 0$$

$|x-1|=1 \rightarrow x \neq 0 \leq 2$
 $|x-1|=\delta \rightarrow x-2 \leq \delta$

$$D = \mathbb{R} - \{-2, 0, 2, \delta\}$$

$$\text{الف) } \frac{x+2}{|2x+1| - |x+2|} \rightarrow |2x+1| - |x+2| \neq 0$$

$$|2x+1| = |x+2| \quad \hookrightarrow (|2x+1|)^2 = (x+2)^2 = 0 \rightarrow D = \mathbb{R} - \left\{-\frac{2}{3}, 2\right\}$$

$$\text{ب) } y = \sqrt{|2x+1| - |x+2|} \rightarrow D(x) \geq 0 \rightarrow x \in (-\infty, -\frac{2}{3}] \cup [2, \infty)$$

$$D = (-\infty, -\frac{2}{3}] \cup [2, \infty)$$

كامل فوسى

المحضره

الف) $y = \log_r (1 - \log_r^n)$ $\rightarrow 1 - \log_r^n > 0 \rightarrow \log_r^n < 1 \rightarrow n < r$
 $\log_r^n \rightarrow n > 0$ $D = (0, r)$

ب) $y = \log_r (1 - \log_{\frac{1}{r}}^n)$ $\rightarrow 1 - \log_{\frac{1}{r}}^n > 0 \rightarrow \log_{\frac{1}{r}}^n < 1 \rightarrow n > \frac{1}{r}$
 $\log_{\frac{1}{r}}^n \rightarrow n > 0$ $D = (\frac{1}{r}, +\infty)$

$n = \sqrt{\log_{a,d}^{(rn-1)}}$ $\rightarrow rn-1 > 0 \rightarrow n > \frac{1}{r}$
 $\log_a^{rn-1} \geq 0 \rightarrow rn-1 \leq 1 \rightarrow n \leq \frac{2}{r}$
 $\hookrightarrow n > 0 \rightarrow n \leq r$
 $D = (1, r]$

الف) $y = \log(r \cos n + 1)$ $\rightarrow r \cos n + 1 > 0 \rightarrow \cos n > -\frac{1}{r}$
 $D = \mathbb{R} - \left\{ \frac{r\pi}{r} + 2k\pi, \frac{4\pi}{r} + 2k\pi \right\}$

ب) $y = \sqrt{\log \frac{n-1}{n+1}}$ $\rightarrow n \neq -1, \log(0) \geq 0$
 $\frac{n-1}{n+1} \geq 1 \rightarrow n < -1$
 $D = (-\infty, -1)$

المعبر بالشرط

$f(x) = \sqrt{(a+r)x^2 + ax + b} \leftrightarrow (-\infty, r]$
 $\rightarrow x^2 \text{ مبر } = 0 \rightarrow a = -r \rightarrow$
 $-rx + b \geq 0 \rightarrow x \leq \frac{b}{r} \rightarrow \frac{b}{r} = r \rightarrow b = r^2$

$f(x) = \sqrt{x^2 + rx + r - m^2} \leftrightarrow D = \mathbb{R}$

$\underbrace{x^2 + rx + r - m^2}_u \geq 0$
 $\min((n+1)^2 + 1 - m^2) = 1 - m^2 \geq 0 \rightarrow |m| \leq 1$
 $\rightarrow \max m = 1$
 $\rightarrow \min m = -1$
 $1 - (-1) = 2$

$$f(n) = \frac{\sqrt{4-n^2}}{[n] + [-n] + 1} \rightarrow 4-n^2 \geq 0 \Rightarrow |n| \leq 2$$

$$[n] + [-n] + 1 \rightarrow \text{صفر}$$

اصغر و بزرگ

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 { ۲ و ۱ و -۱ و -۲ }
 اعداد صحیح دایره = ۲ و ۱ و -۱ و -۲
 در ۵