

الف) $y = \frac{x+3}{x^2+x^2-11x+3} = \frac{x+3}{(x-1)(2x^2+5x-3)} = \frac{x+3}{(x-1)(2x-1)(x+3)}$
 $\frac{-3}{x} + \frac{1}{x-1} - \frac{1}{2x-1}$
 $D_f = \mathbb{R} - \{3\} - \{\frac{1}{2}\} - \{1\}$

ب) $y = \frac{x+3}{2x^2+7x+3} = \frac{x+3}{(x+1)(2x^2+7x+3)} = \frac{x+3}{(x+1)(2x+1)(x+3)}$
 $D_f = \mathbb{R} - \{-1\} - \{-\frac{1}{2}\} - \{-3\}$

الف) $y = \frac{x+3}{x^2-2x^2+7x-1} = \frac{x+3}{(x-1)(x^2-x+1)}$
 مقمره نیست

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

ب) $y = \sqrt{\frac{x+3}{(x-1)(x^2-x+1)}}$
 $\frac{-3}{x} + \frac{1}{x-1} - \frac{1}{x^2-x+1} \Rightarrow D_f = (-\infty, -3] \cup (1, \infty)$
 $y = \frac{1}{x^2-2|x-1|-2x+6}$
 $|+| \Rightarrow \frac{1}{x^2-2x+1} = \frac{1}{(x-1)^2} \Rightarrow D_f = \mathbb{R} - \{1\}$
 $| - | \Rightarrow \frac{1}{x^2+2x} = \frac{1}{x(x+2)} \Rightarrow D_f = \mathbb{R} - \{0\} - \{-2\}$

الف) $y = \sqrt{[-x]-2} \Rightarrow [-x] \geq -2 \Rightarrow -x \geq -2 \Rightarrow x \leq 2 \Rightarrow D_f = (-\infty, 2]$

ب) $y = \frac{2x^2+6}{[x]^2-2[x]-2} \Rightarrow \frac{2x^2+6}{([x]-2)([x]+1)} \Rightarrow D_f = \mathbb{R} - \left\{ \frac{2}{3}[2, 4) - [-1, 0) \right\}$

الف) $y = \sqrt{\left[n - \frac{1}{p}\right] + \left[n + \frac{1}{p}\right]} \Rightarrow \sqrt{\left[n + \frac{1}{p} - 1\right] + \left[n + \frac{1}{p}\right]} \Rightarrow 2\left[n + \frac{1}{p}\right] - 1 \geq 0$
 $\Rightarrow \left[n + \frac{1}{p}\right] \geq \frac{1}{2} \Rightarrow n \geq \frac{1}{p} \Rightarrow D_f = \left[\frac{1}{p}, +\infty\right)$

ب) $y = \sqrt{\left[n - \frac{1}{p}\right] + \left[\frac{1}{p} - n\right]} \Rightarrow \left[n - \frac{1}{p}\right] + \left[-\left(n - \frac{1}{p}\right)\right] \geq 0 \Rightarrow n - \frac{1}{p} \in \mathbb{Z}$
 $\Rightarrow D_f = \left\{ n \mid n = k + \frac{1}{p}, k \in \mathbb{Z} \right\}$

A diagram of a unit circle in the complex plane. The circle is centered at the origin. Several points are marked on the circle with dots. The angles (in radians) are labeled around the circle: π at the leftmost point, $\frac{\pi}{2}$ at the top, 0 at the rightmost point, and $\frac{3\pi}{2}$ at the bottom. The corresponding complex numbers are labeled near the points: $\frac{w\pi}{r}$ near the top-left, $\frac{v\pi}{r}$ near the bottom-right, $\frac{u\pi}{r}$ near the bottom, and $\frac{t\pi}{r}$ near the top. A red checkmark is drawn to the right of the circle. A pink oval highlights the text "1.5" written in pink ink.

$\frac{1}{r}$
 $\frac{\sigma\pi}{9}$
 $\frac{\pi}{9}$

بازہ قابل قبول

$$\frac{\pi}{\psi}$$

A Feynman diagram showing the annihilation of a π^- and a π^+ into two photons. The π^- is composed of a d quark and a $\bar{u}$ quark, while the π^+ is composed of a u quark and a $\bar{d}$ quark. They annihilate into a virtual photon (γ^*), which then decays into two real photons (γ).

①

-A

$$\begin{array}{r} -2 \quad -1 \\ + \oplus - \oplus + \end{array} \quad B$$

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ب) $\cos y = \sqrt{a-2m} \Rightarrow -1 \leq \sqrt{a-2m} \leq 1 \Rightarrow 0 \leq \sqrt{a-2m} \leq 1$

$$\Rightarrow \omega - 2\pi \leq 1 \Rightarrow -\omega \leq -2\pi \leq -r \Rightarrow \frac{\omega}{r} \geq n \geq 2 \Rightarrow D_f = [2, \frac{\omega}{r}]$$

$\pi > 0$

-9

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$$D_f = (1, 9 + \infty)$$

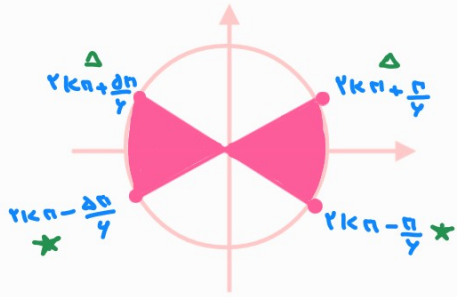
-10

P

$$\Rightarrow r_n + a \in r_n W + f W \Rightarrow r_n - r_n W \in f W - a$$

$$\Rightarrow n \in f(w-a) \Rightarrow \cancel{4 \neq f(k)} \mid \cancel{b \in w}?$$

$$4- \text{ب) } 1 - r \sin^2 n \geq 0 \rightarrow r \sin^2 n \leq 1 \rightarrow \sin^2 n \leq \frac{1}{r} \rightarrow -\frac{1}{\sqrt{r}} \leq \sin n \leq \frac{1}{\sqrt{r}}$$



$$\rightarrow D_f = [k\pi - \frac{\pi}{\gamma}, k\pi + \frac{\pi}{\gamma}]$$