

$$(n-2)(n+2)$$

نقطه انتگرال برای نوشتن

۱)  $n^2-1 \geq 0 \rightarrow n^2 \geq 1 \rightarrow (n \geq 1, n \leq -1) \rightarrow D = [1, +\infty) \cup (-\infty, -1]$   
 $n-2 \geq 0 \rightarrow n \geq 2$   
 فنکشن همواره از ۰ است و ۰ را می‌تواند به ۰  
 $D_f$  یا  $D$  می‌تواند به ۰

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۲)  $4-3n \geq 0 \rightarrow n \leq \frac{4}{3}$   
 $4n-3 \geq 0 \rightarrow 4n \geq 3 \rightarrow n \geq \frac{3}{4}$   
 $D = [\frac{3}{4}, \frac{4}{3}]$

$$4n \geq a \rightarrow n \geq \frac{a}{4}$$

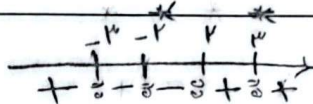
$$\frac{a}{4} = \frac{b}{4} = 2$$

$$b \geq 3n \rightarrow n \leq \frac{b}{3}$$

$a=12, b=4$   
 $\frac{b}{a} = \frac{1}{3}$

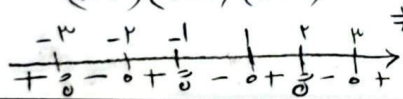
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۳)  $n^2-2$   $(n^2-4)(n^2-9)$   
 $(n-2)(n+2)(n-3)(n+3)$



$D = (-\infty, -3) \cup (-2, +\infty) - \{2\}$

$\rightarrow \sqrt{\frac{(n-1)(n-2)(n+2)}{(n+1)(n+3)(n-2)}}$



$D = (-\infty, -3) \cup (-2, 1) \cup [2, +\infty)$

Handwritten calculations for problem 3 showing polynomial division and simplification of the square root expression.

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۴)  $2[n]-4 \geq 0 \rightarrow 2[n] \geq 4 \rightarrow [n] \geq 2 \rightarrow n \geq 2 \rightarrow D = [2, +\infty)$

۵)  $2[n] \geq 0 \rightarrow [n] \geq 0 \rightarrow n \geq 0 \rightarrow D = [0, +\infty)$

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۶)  $\frac{1}{n} \geq \frac{1}{2} \rightarrow n \leq 2 \rightarrow D = (-\infty, 2]$

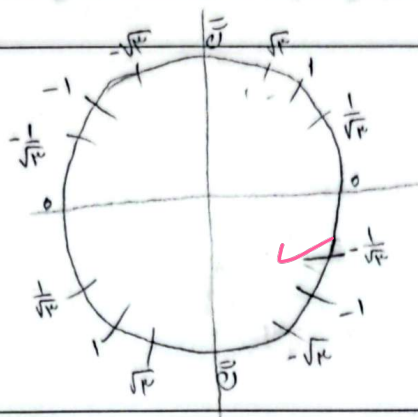
$D = [1, 2] - \{2\}$

۷)  $[n] \geq 2 \rightarrow n \geq 2$

$[n] \leq 2 \rightarrow n \leq 2$

$D = \emptyset$

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$$\tan \alpha = \frac{\sin \alpha}{\cos \alpha}$$

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$$1) \frac{1}{4} + (-1) + 2(-1) = -\frac{5}{4}$$

$$2) -(-\frac{\sqrt{3}}{4}) + \frac{\sqrt{3}}{4} - 3(-\frac{\sqrt{3}}{4}) = \frac{5\sqrt{3}}{4}$$

$$3) -\frac{\sqrt{3}}{4} + 3(\frac{\sqrt{3}}{4}) - 2(\frac{\sqrt{3}}{4}) = \frac{4\sqrt{3}}{4} = \sqrt{3}$$

$$4) \frac{\cos(0)}{1} + \frac{\sin(\pi \times \frac{1}{4})}{1} = 2$$

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$$a^2 + \varepsilon a = \varepsilon a + a + \varepsilon \rightarrow a^2 + a - \varepsilon = 0 \quad (a+\varepsilon)(a-1) = 0 \rightarrow a \neq 0 \Rightarrow a = 1$$

$\downarrow$        $\downarrow$   
 $-\varepsilon$      $1$

$$f(1) = 1 + \varepsilon = 2$$

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$$n+1 \leq -2$$

$$n \leq -3 \rightarrow n^2 - b$$

$$n \geq -3 \rightarrow a + \varepsilon n$$

$$\left\{ \begin{array}{l} n = -3 \\ n = -2 \end{array} \right. \rightarrow 11 - b = a - 9 \rightarrow a + b = 20$$

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$$1) n^3 - \varepsilon n^2 \neq 0 \rightarrow n^2(n - \varepsilon) \neq 0 \rightarrow n \neq 0, n \neq \varepsilon \rightarrow D = \mathbb{R} - \{0, \varepsilon\}$$

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$$2) \varepsilon n^3 + \varepsilon n^2 + \varepsilon n + \varepsilon \neq 0$$

$$\varepsilon n^2(n + \varepsilon) + \varepsilon(n + \varepsilon) \neq 0$$

$$(n + \varepsilon)(\varepsilon n^2 + \varepsilon) \neq 0 \rightarrow \varepsilon(n^2 + 1) \neq 0$$

$$n \neq -\varepsilon$$

$$\rightarrow D = \mathbb{R} - \{-\varepsilon\}$$

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