

۱۹.۵ آفلاین خوب نوشتن

|                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
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| $\alpha = 0 \quad \alpha - 2 = 0 \quad \alpha_1 = 2$<br>$f(x) = \sqrt{2x + b}$<br>$2 \cdot 2 + b = 4$<br>$b = 0$                                                                                                                                                                                                                                                                                                                        | ۱ |
| $\Delta \neq 0$<br>$\alpha > 0$<br>$x - x(2 - m^2) \leq 0$<br>$x(1 - 2 + m^2) \leq 0$<br>$m^2 - 1 \leq 0$<br>$m^2 \leq 1$<br>$-1 \leq m \leq 1$<br>$1 - (-1) = 2$                                                                                                                                                                                                                                                                       | ۲ |
| <p>برای اینکه مغز متفکر شود</p> <p>مثال: <math>[x] + [-x] \neq -1</math></p> <p><math>x \neq 1k - 2 \rightarrow x \in \mathbb{Z}</math></p> <p><math>x - x^2 \geq 0</math><br/> <math>x^2 \leq x</math><br/> <math>x \leq 1</math></p>                                                                                                                                                                                                  | ۳ |
| <p>الف) <math>x^3 + 3x^2 \geq 0</math><br/> <math>x^2(x + 3) \geq 0</math><br/> <math>\frac{-3}{-3+3+}</math><br/> <math>Pf: [-3, +\infty)</math></p> <p>ب) <math>y = \sqrt{\frac{(x^2-1)(x^3-3x^2)}{x^2-1}}</math><br/> <math>\frac{-1}{+} \frac{+}{+} \frac{+}{-} \frac{+}{-} \frac{+}{+}</math><br/> <math>Pf: (-\infty, -1] \cup [1, +\infty) \cup \{0\}</math></p>                                                                 | ۴ |
| <p>الف) <math> x - 2  - 3 \geq 0</math><br/> <math> x - 2  \geq 3</math><br/> <math>x - 2 \geq 3 \quad x \geq 5</math><br/> <math>x - 2 \leq -3 \quad x \leq -1</math><br/> <math>Pf: (-\infty, -1] \cup [5, +\infty)</math></p> <p>ب) <math>x -  2 - x  \geq 0</math><br/> <math> 2 - x  \leq x</math><br/> <math>2 - x \leq x \quad x \geq -2</math><br/> <math>2 - x \geq -x \quad x \leq 2</math><br/> <math>Pf: [-2, 2]</math></p> | ۵ |

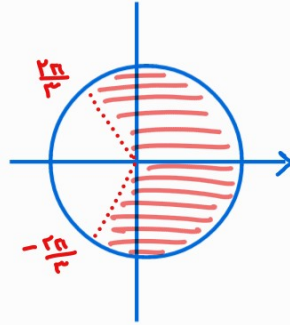
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <p>الف) <math>1 -  x  \geq 0 \Rightarrow  x  \leq 1 \Rightarrow x \leq 1</math> <math>Df = (-\infty, 1]</math></p> <p>ب) <math>3 -  x - \omega  \geq 0 \Rightarrow  x - \omega  \leq 3</math><br/> <math>\sqrt{3 -  x - \omega } - 1 \neq 0 \Rightarrow 3 -  x - \omega  \neq 1</math><br/> <math>3 -  x - \omega  \neq 1 \Rightarrow  x - \omega  \neq 2 \Rightarrow x - \omega \neq \pm 2 \Rightarrow x \neq \omega \pm 2</math><br/> <math>x - \omega \leq 3 \Rightarrow x \leq \omega + 3</math><br/> <math>x - \omega \geq -3 \Rightarrow x \geq \omega - 3</math></p>                                                                                                                                                                                | <p>6</p>  |
| <p>الف) <math>\cos x \neq 0 \Rightarrow x \neq k\pi + \frac{\pi}{2}</math> <math>Df = \mathbb{R} - \{k\pi + \frac{\pi}{2}\}</math></p> <p>ب) <math>2 \cos x - 1 \neq 0 \Rightarrow \cos x \neq \frac{1}{2} \Rightarrow x \neq 2k\pi \pm \frac{\pi}{3}</math> <math>Df = \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\}</math></p>                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>7</p>  |
| <p>الف) <math> 2x+1  -  x+3  \neq 0 \Rightarrow  2x+1  \neq  x+3 </math> <math>(2x+1)^2 \neq (x+3)^2</math><br/> <math>4x^2 + 4x + 1 \neq x^2 + 6x + 9 \Rightarrow 3x^2 - 2x - 8 \neq 0</math><br/> <math>3x^2 - 2x - 8 = 0 \Rightarrow (3x+4)(x-2) = 0 \Rightarrow x = -\frac{4}{3} \text{ or } x = 2</math><br/> <math>Df = \mathbb{R} - \{-\frac{4}{3}, 2\}</math></p> <p>ب) <math> 2x+1  \geq  x+3 </math><br/> <math>\begin{cases} -2x-1 \geq x+3 \Rightarrow -3x \geq 4 \Rightarrow x \leq -\frac{4}{3} \\ -2x-1 \leq x+3 \Rightarrow -3x \geq 4 \Rightarrow x \leq -\frac{4}{3} \\ 2x+1 \geq x+3 \Rightarrow x \geq 2 \\ 2x+1 \leq x+3 \Rightarrow x \geq 2 \end{cases}</math><br/> <math>Df = (-\infty, -\frac{4}{3}] \cup [2, +\infty)</math></p> | <p>8</p>  |
| <p><math>\log_{n-1} &gt; 0 \Rightarrow n-1 &gt; 1 \Rightarrow n &gt; 2</math> I<br/> <math>\log_{\omega} &gt; 0 \Rightarrow \omega &gt; 1 \Rightarrow n-1 &gt; \omega \Rightarrow n &gt; \omega + 1</math> II<br/> <math>\log_{\frac{1}{F}} &gt; 0 \Rightarrow \frac{1}{F} &lt; 1 \Rightarrow F &gt; 1</math> III<br/> <math>I \cap II \cap III \Rightarrow n &gt; \omega + 1</math></p>                                                                                                                                                                                                                                                                                                                                                                   | <p>9</p>  |
| <p>الف) <math>2 \cos n + 1 &gt; 0 \Rightarrow \cos n &gt; -\frac{1}{2}</math> <math>Df = (2k\pi - \frac{2\pi}{3}, 2k\pi + \frac{2\pi}{3})</math></p> <p>ب) <math>\frac{n-1}{n+1} &gt; 0 \Rightarrow \frac{n-1}{n+1} &gt; 0 \Rightarrow n &gt; -1</math> <math>Df = (-\infty, -1) \cup (1, +\infty)</math><br/> <math>\log \frac{n-1}{n+1} &gt; 0 \Rightarrow \frac{n-1}{n+1} &gt; 1 \Rightarrow n+1 &lt; n+1 \Rightarrow n &lt; -1</math></p>                                                                                                                                                                                                                                                                                                              | <p>10</p> |

١. - ب)  $\frac{n-1}{n+1} > 0 \rightarrow \boxed{n > 1 \leq n < -1}$

$\log_{\frac{n+1}{n-1}} \geq 0 \rightarrow \frac{n-1}{n+1} \geq (1.) \rightarrow \frac{n-1}{n+1} \geq 1 \rightarrow \frac{n-1}{n+1} - 1 \geq 0 \rightarrow \frac{n-1-n-1}{n+1} \geq 0 \rightarrow \frac{-2}{n+1} \geq 0$

$n+1 < 0 \rightarrow \boxed{n < -1} \rightarrow D_f = (-\infty, -1)$

١. - الف)  $\sqrt{C} \cdot \sin u + 1 > 0 \rightarrow C \cdot \sin u > -\frac{1}{r}$



$\rightarrow D_f = (2k\pi - \frac{\pi}{r}, 2k\pi + \frac{\pi}{r})$