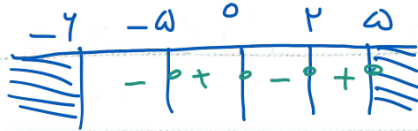


14/08

آزمون ریاضی

$$y = f(x)$$

$$y = \sqrt{f(x)}x \rightarrow x f(x) > 0$$

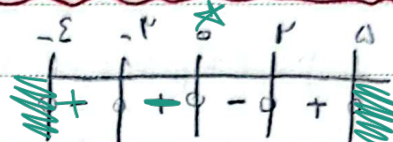


تعیین علامت!

10

$\left\{ \begin{matrix} + \\ - \end{matrix} \right\} \rightarrow \begin{matrix} + \\ - \end{matrix} \rightarrow \begin{matrix} + \\ - \end{matrix} \rightarrow \begin{matrix} + \\ - \end{matrix}$ دامنه y و x هم علامت
 $[-5, 0] \cup [2, 5]$

$$y = \sqrt{\frac{-x}{f(x)}} \rightarrow \frac{-x}{f(x)} \geq 0, f(x) \neq 0$$



1, 28

$$(-5, 0) \cup (1, 5)$$

$$Dy = (-5, 1) - \{0\}$$

3. اگر x را برابر 2 بگذاریم داریم؟

$$f(2) - 2f(2) = \varepsilon - 4 + \varepsilon \rightarrow -f(2) = \varepsilon - 2 \rightarrow f(2) = -2$$

$$f(-2) - 2f(2) = \varepsilon + 4 + \varepsilon \rightarrow f(-2) = 10$$

$$\frac{f(5)}{x < 3} \rightarrow f(5) = 5 - \sqrt{5 + \varepsilon} = 2 \rightarrow f(5) = 2$$

4

$$\frac{f(7)}{x < 3} \rightarrow f(7) = \varepsilon + 7 = 7 \rightarrow f(7) = 7$$

5

$$\frac{f(1)}{x < 3} \rightarrow f(1) = 1 + 3 = 4 \rightarrow f(1) = 4$$

$$f(5) = 2 \rightarrow f(f(1)) = 2 \rightarrow 7 + 2 = 9$$

$$f(0) = 2$$

$$f(-1) - 2 = 2 \rightarrow f(-1) = 4 \rightarrow a + b = 2 \rightarrow a = 2 - b$$

$$f(-2) - \varepsilon = -2 \rightarrow f(-2) = 0 \rightarrow \varepsilon a + 2b = -2 \rightarrow 1 - 2b = -2 \rightarrow 2b = 1 \rightarrow b = \frac{1}{2}$$

P4PCO

$$a + a = 2 \rightarrow a = 1 \rightarrow 1 - 2 \cdot \frac{1}{2} = 0$$

$$f(x) = \frac{(2x+1)^2 + 1}{(x+1)^2 + 1^2} \rightarrow f(x) = \frac{(x^2 + 2x + 1)^2 + 1}{(x^2 + 2x + 1)^2 + 1^2} = \frac{x^4 + 4x^3 + 6x^2 + 4x + 2}{x^4 + 4x^3 + 6x^2 + 4x + 2}$$

✓

$$f(x) = \frac{x^2 + 1}{x^2 + 1} = 1 \rightarrow f(x) = 1$$

✓

$$f(x) = \frac{x^2 + 1}{x^2 + 1} = 1 \rightarrow f(x) = 1$$

$$g(x) = \sqrt{9 - x^2} \rightarrow g(x) = 3 \rightarrow g(x) = 3$$

✓

$$f(x) = \frac{x^2 + 1}{x^2 + 1} = 1 \rightarrow f(x) = 1$$

$$f(x) = \frac{x^2 + 1}{x^2 + 1} = 1 \rightarrow f(x) = 1$$

✓

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✓

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✓