

نیز در هم دفتر B

تکلیف ها

14,0

فاصله فروش

$$y = \sqrt{n^2 f(n+1)}$$

$$f(n+1) \rightarrow \text{همواره مثبت}$$

$$n^2 \rightarrow$$

$$\frac{0}{-1+}$$

(1)

$$Df \rightarrow [0, +\infty)$$

$$Df = [0, 1]$$

1,0

$$f(n) = \sqrt{-n + |-n+2|}$$

$$-n + |-n+2| \geq 0$$

$$Df = (-\infty, 1]$$

$$|-n+2| \geq n$$

$$-n+2 \geq n$$

$$1 \geq n$$

$$-n+2 \leq -n$$

غیر ممکن

(2)

$$y = \sqrt{\frac{n-1}{f(n)}}$$

$$\frac{n-1}{f(n)} \geq 0$$

$$\frac{-1}{-1+} + \frac{1}{0-} - \frac{2}{-1+} + \frac{3}{0-}$$

$$Df = (-\infty, 1] \cup$$

$$(2, 3)$$

(3)

$$4n^2 - 4n^2 - n^2 - \varepsilon n - \varepsilon + 1 \rightarrow (3n^2 - 1)^2 - (n+2)^2 \neq 0 \rightarrow$$

$$3n^2 - 1 = n+2 \rightarrow 3n^2 - n - 3 = 0$$

$$3n^2 - n - 3, 3n^2 + an + b \rightarrow a = -1$$

$$b = -3$$

$$\sqrt{-(a+b)} = \sqrt{\varepsilon} = 2$$

(4)

$$y = \sqrt{f(n) - f(\frac{\varepsilon}{n})} = y \cdot \sqrt{n^2 + n - (\frac{\varepsilon}{n})^2 - \frac{\varepsilon}{n}} \rightarrow n^2 + n - (\frac{\varepsilon}{n})^2 - \frac{\varepsilon}{n} \geq 0$$

(5)

$$y = \sqrt{\frac{1}{n^2} (n^2 - \varepsilon) + \frac{1}{n} (n^2 - \varepsilon)}$$

$$\frac{-1}{-1+} + \frac{1}{0-} - \frac{2}{-1+} + \frac{3}{0-}$$

$$y = \sqrt{\frac{1}{n^2} (n^2 - \varepsilon) (n^2 + 14 + \varepsilon n^2) + \frac{1}{n} (n^2 - \varepsilon)}$$

$$Df = (-2, 0) \cup (2, +\infty)$$

$$y = \sqrt{\frac{1}{n} (n^2 - \varepsilon) (\frac{1}{n^2} (n^2 + 14 + \varepsilon n^2) + 1)}$$

$$y = \sqrt{\frac{1}{n} (n^2 - \varepsilon) (n^2 + \frac{14}{n^2} + \varepsilon)}$$

(6)

$$n=2 \quad f(1+2) = 2 \times 2 - 1 = 3$$

$$n=1 \quad f(1+1) = 2 \times 1 - 1 = 1$$

$$f(2) + f(10) = 1$$

(7)

(5)

$$f(m) = m^3 - 9m^2 + 12m = (m-2)^3 + 8 \quad f(\sqrt[3]{2}+2) = 2+8=10 \quad (✓)$$

$$g(m) = m^3 + 9m^2 + 27m = (m+3)^3 - 27 \quad f(\sqrt[3]{-27}-3) = -27-27 = -54 \quad (✓)$$

$$\frac{g}{f} = \frac{-27}{10} = -\frac{27}{10}$$

$$f(m) = \sqrt{m+2}\sqrt{m-2} = \sqrt{(m-2)+2}\sqrt{m-2} = \sqrt{(m-2+2)^2} \quad (✓)$$

$$g(m) = \sqrt{m-2}\sqrt{m-2} = \sqrt{(m-2)-2}\sqrt{m-2} = \sqrt{(m-2-2)^2} \quad (✓)$$

$$f(m) + g(m) = |\sqrt{m-2}+2| + |\sqrt{m-2}-2| \rightarrow 1 < m < 2 \rightarrow \text{برای } m > 2 \rightarrow \text{مستقر}$$

$$1 < m < 2 \rightarrow \sqrt{m-2}+2+2-\sqrt{m-2} = 4$$

$$m > 2 \rightarrow \sqrt{m-2}+2+\sqrt{m-2}-2 = 2\sqrt{m-2}$$

$$a+b\sqrt{m+c} \quad a+b=2 \quad c=-2 \quad \frac{a+b}{c} = \frac{2}{-2} = -1 \quad \left(-\frac{1}{2}\right)$$

برای m و $f(m)$ $\rightarrow f(m) = \left\{ (2, -4), (0, \frac{2}{3}) \right\} \rightarrow m = 1, 3$ به ازای $m=1, 3$ تعریف نمی شود چون ریشه های منفی

$$\frac{g}{f} = \left\{ (2, -\frac{1}{2}), (0, 4) \right\}$$

$$f(2m) = \left\{ (\frac{1}{2}, 2), (\frac{3}{2}, -1), (2, 2), (-\frac{1}{2}, 4) \right\} \quad (10)$$

$$b) f(m^2) = \left\{ (1, 2), (\pm\sqrt{3}, -1), (\pm 2, 2) \right\}$$

$$c) 2g^2(m) + 1 = \left\{ (-1, 9), (1, 3), (3, 9), (-3, 9) \right\} \quad (5)$$

$$d) \frac{2f}{g} = \left\{ (1, -4), (3, -1) \right\}$$