

$$F(x^r + 2x) = 2x^r - 1$$

$$F(r) + F(0) = 1 + V = \Lambda$$

جواب

$$x^r + x = 1 \rightarrow x = 1 \rightarrow F(r) = 1 - 1 = 0$$

$$x^r + x = 0 \rightarrow x = 0 \rightarrow F(0) = \Lambda - 1 = V$$

$$F(x) = x^r - 9x^r + 12x$$

$$(x-r)^r = x^r - 9x^r + 12x - \Lambda \rightarrow F(x) = (x-r)^r + \Lambda \rightarrow (\sqrt{r} + r-r)^r = 1 + \Lambda = 10$$

$$\frac{g(\sqrt{r} - r)}{1 - (\sqrt{r} + r)} = \frac{-10}{10} = -1$$

$$g(x) = x^r + 9x^r + 12x$$

$$(x+r)^r = x^r + 9x^r + 12x + 2V - g(x) - (x-r)^r - 2V \rightarrow (\sqrt{r} - r + r)^r - 2V = V - 2V = -V$$

جواب -1

$$f(x) = \sqrt{x+1} \sqrt{x-1} \quad g(x) = \sqrt{x-1} \sqrt{x-1} \quad F(x) = g(x) + a + b\sqrt{x+c}$$

$$\left(\sqrt{\frac{x+1}{x+b}} + \sqrt{\frac{x-1}{x-b}} \right)^2 = x + f\sqrt{x-1} + x - 1\sqrt{x-1} + \frac{2\sqrt{x^2 - 14x + 49}}{0 \rightarrow 2x - 14} = 2x + 2x - 14$$

$$\textcircled{1} \rightarrow \sqrt{x^2 - 14x + 49} = \sqrt{(x-7)^2} = |x-7|$$

$$\Rightarrow (F(x) + g(x))^2 = \frac{f(x-14)}{f(x-7)} = \frac{f(x)}{f(x-7)} = \frac{2\sqrt{x-7}}{1} = a + b\sqrt{x+c} \Rightarrow \frac{a+b}{c} = \frac{0+2}{-7} = \left(-\frac{2}{7} \right)$$

جواب

$$f(x) = \frac{2x+2}{x^2-4x+4}$$

$$g(x) = f(2,1)(1,0)(3,5)(0,4)$$

$$\frac{g}{f} = ?$$

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

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

جواب

$$f(x) = \{ (1,2)(3,-1)(4,2)(-1,4) \} \quad g(x) = \{ (-2,3)(1,-1)(2,2)(-1,0) \}$$

$$f(x) \rightarrow 4 \text{ عضو دارد}$$

$$g(x) \rightarrow 4 \text{ عضو دارد}$$

$$\rightarrow \left\{ \left(\frac{1}{2}, 2 \right) \left(\frac{3}{2}, -1 \right) \left(2, 2 \right) \left(-\frac{1}{2}, 4 \right) \right\}$$

$$\rightarrow \left\{ (-2, 3) (1, -1) (2, 2) (-1, 0) \right\}$$

$$f(x^r) \rightarrow 3 \text{ عضو دارد}$$

$$g(x) \rightarrow 2 \text{ عضو دارد}$$

$$\rightarrow \left\{ (1,2)(\sqrt{3},-1)(2,2)(\sqrt{3},4) \right\}$$

$$\rightarrow \left\{ (-2,3)(1,-1)(2,2)(-1,0) \right\}$$

در اینجا بر روی یک خط قرار می گیرند

در اینجا در خارج یکدیگر قرار می گیرند

$$f(x) = \left(\frac{1}{x}\right)^{x-1} - 1$$

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

$$y = \sqrt{x^x \left(\left(\frac{1}{x+1}\right)^{x+1} - 1\right)} = \sqrt{\frac{x^x}{x+1} - x^{x+1}} \Rightarrow \frac{x^x}{x+1} - x^{x+1} \geq 0 \Rightarrow x^x \times \frac{1}{x+1} - x^{x+1} \geq 0$$

$$\rightarrow x^x \left(\frac{1}{x+1} - 1\right) \geq 0 \rightarrow \frac{0}{-} + \frac{1}{-} \rightarrow D = [0, 1]$$

جواب

$$f(x) = \sqrt{x + |x+1|}$$

$$f(-x)$$

$$f(-x) = \sqrt{-x + |-x+1|} \rightarrow -x + |-x+1| \geq 0 \rightarrow \begin{cases} x \leq 1 \\ x \geq 1 \end{cases} \rightarrow \begin{cases} -x - x + 1 \geq 0 \rightarrow x \leq 1 \\ -x - x + 1 \geq 0 \rightarrow x \leq 1 \end{cases}$$

این عبارت همیشه نادرست است پس جوابی ندارد

$$D_{f(x)} = (-\infty, 1]$$

جواب

$$y = \sqrt{\frac{x-1}{f(x)}} \rightarrow \frac{x-1}{f(x)} \geq 0 \rightarrow \frac{-}{-} + \frac{+}{+} \rightarrow D = (-1, 1] \cup (2, 3)$$

جواب

$$y = \frac{1}{9x^2 - 4x^2 - 8x - 3}$$

$$y = \frac{1}{3x^2 + ax + b}$$

$$\sqrt{a+b} = \sqrt{c} = 2$$

$$\textcircled{1} 9x^2 - 4x^2 - 8x - 3$$

$$\textcircled{2} 9x^2 - 4x^2 = (3x^2 - 2)(3x^2 + 2)$$

$$\textcircled{3} (3x^2 - 2)(3x^2 + 2) = 1$$

$$\textcircled{4} 9x^2 + (3z + 3w - 1)x^2 + (-z + w)x + wz = 9x^2 - 4x^2 - 8x - 3$$

$$\textcircled{5} 3w + 3z - 1 = -7, -z + w = -8, wz = -3 \Rightarrow w = -8 + z \Rightarrow$$

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