

$$y = \sqrt{x f(x)}$$

سپ باید به دنبال لاجی بگیریم در آن x $x f(x) \geq 0 \rightarrow$ در آن x هم علامتند یعنی در لاجی اول داریم

$$D_f = [-\infty, 0] \cup [2, \infty)$$

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

سپ باید به دنبال لاجی بگیریم در آن x $\frac{-x}{f(x)} \geq 0 \rightarrow$ در آن x علامت مانی می باشد یعنی در لاجی دوم

$$D_f = [-2, 0] \cup [0, 2]$$

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$$f(x) - 2f(2) = x^2 - 3x + 6 \rightarrow f(x) - 2(-2) = x^2 - 3x + 6$$

$$\begin{aligned} \xrightarrow{x=2} f(2) - 2f(2) &= 6 - 6 + 6 = 6 \rightarrow f(2) = 6 \\ \rightarrow -f(2) &= 6 \rightarrow f(2) = -6 \end{aligned} \quad \left. \begin{aligned} \rightarrow f(x) &= x^2 - 3x \\ \xrightarrow{x=-2} f(-2) &= 6 - (-6) = 12 \end{aligned} \right\}$$

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$$\begin{aligned} f\left(\frac{f(5)}{2}\right) + f\left(\frac{f(1)}{2}\right) &= f(2) + f(5) = 6 + 3 + 5 - \sqrt{5+6} \\ &= 7 + 2 = 9 \\ \frac{f(5)}{2} &= 2 \rightarrow f(5) = 4 \\ \frac{f(1)}{2} &= 2 \rightarrow f(1) = 4 \end{aligned}$$

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$$\begin{aligned} f(x) &= ax^2 - bx + 2 \xrightarrow{x=0} f(0) = 2 \\ f(x-1) - f(x) &= 9x + 2 \xrightarrow{x=1} f(0) - f(1) = 11 \rightarrow f(1) = \frac{f(0)}{2} - 11 = -10 \\ f(1) &= a - b + 2 = -10 \rightarrow a - b = -12 \end{aligned}$$

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$$f(u) = \frac{u^2 + 2u + 5}{u^2 + 2u + 7} = \frac{(u+1)^2 + 1}{(u+1)^2 + 3} \xrightarrow{u = \sqrt{3}-1} f(\sqrt{3}-1) = \frac{3+1}{3+3}$$

$$= \frac{4}{6} = \frac{2}{3}$$

$$f\left(u - \frac{1}{u}\right) = \frac{u^2 + 1}{u^2} = u^2 + \frac{1}{u^2} \xrightarrow{u = -3} f(-3) = (-3)^2 + 2$$

$$= 9 + 2 = 11$$

عبرت داخل پارتیشن‌ها ۲ رسیو دساخت
+ ۲ شوابت =

$$\text{الف) } \frac{f}{g} = \left\{ \left(2, \frac{0}{\sqrt{6}}\right), \left(1, \frac{-2}{\sqrt{2}}\right), \left(0, \frac{2}{3}\right) \right\}$$

$$\text{ب) } \frac{g}{f} = \left\{ \left(\frac{2}{\sqrt{6}}, \frac{\sqrt{6}}{0}\right), \left(1, -\frac{\sqrt{2}}{2}\right), \left(0, \frac{3}{2}\right) \right\}$$

$$\text{الف) } 2f(u) = \left\{ \left(2, \frac{2}{3}\right), \left(2, \frac{1}{2}\right), \left(-5, \frac{2}{3}\right), \left(1, \frac{-2}{3}\right) \right\}$$

$$\text{ب) } f(u) + 1 = \left\{ \left(2, \frac{2}{3} + 1\right), \left(2, \frac{1}{2} + 1\right), \left(-5, \frac{2}{3} + 1\right), \left(1, \frac{-2}{3} + 1\right) \right\}$$

$$\text{ج) } 3f^2(u) + 1 = \left\{ \left(2, \frac{4}{9} + 1\right), \left(3, \frac{4}{9} + 1\right), \left(-5, \frac{4}{9} + 1\right), \left(1, \frac{4}{9} + 1\right) \right\}$$

$$\text{د) } f(2u) = \left\{ \left(1, \frac{1}{3}\right), \left(\frac{3}{2}, \frac{1}{2}\right), \left(\frac{-5}{2}, \frac{1}{3}\right), \left(\frac{1}{2}, \frac{-1}{3}\right) \right\}$$

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

$$\text{ب) } \frac{f^2}{g} = \left\{ \left(\frac{2}{\sqrt{6}}, \frac{\sqrt{6}}{0}\right), \left(2, \frac{1}{2}\right), \left(3, \frac{-2}{3}\right) \right\}$$