

$$y = \sqrt{x f(x)} \Rightarrow x f(x) \geq 0 \Rightarrow f(x) \geq 0 = [-2, -1] \cup [0, 4]$$

$$y \leq 0 \Rightarrow f(x) \leq 0 = [-9, -4] \cup [2, 0]$$

$$D_f = [-9, -4] \cup [2, 0] \cup [0, 4] \quad \begin{matrix} [0, 4] \Leftarrow f(x) \geq 0 = x \geq 0 \text{ وقتی } x > 0 \\ [-9, -4] \cup [2, 0] \Leftarrow f(x) \leq 0 = x < 0 \text{ وقتی } x < 0 \end{matrix}$$

$$f(x)^+ \Rightarrow (-4, -2) \cup (-2, 0) \cup (2, 4) \quad \text{اگر } x < 0 \Rightarrow \text{صورت منفی} \Leftarrow f(x) < 0$$

$$f(x)^- \Rightarrow (-4, -2) \cup (0, 2)$$

$$\text{اگر } x > 0 \Rightarrow \text{صورت مثبت} \Leftarrow f(x) > 0$$

$$\text{اعداد صحیح} = \{-5, -2, -1, 0, 1, 2, 3, 4, 5\}$$

~~$$f(x) - 2f(x) = x^2 - 2x + 4$$~~

$$f(x) - 2f(x) = x^2 - 2x + 4$$

~~$$\Rightarrow f(x) - 2f(x) = 2$$~~

$$\Rightarrow f(x) - 2f(x) = 2$$

$$\Rightarrow -f(x) = 2 \Rightarrow -2f(x) = 4$$

$$\Rightarrow f(-2) - 2f(2) = 14 \Rightarrow f(-2) = 10$$

$$f(1) = 5 \Rightarrow f(5) = 2$$

$$v + 2 = 9$$

$$f(5) = 2 \Rightarrow f(2) = 5$$

$$f(0) - f(1) = 1$$

$$\downarrow x(-1)$$

$$f(1) = a - b + 2$$

$$f(0) = 2$$

$$\Rightarrow -f(0) + f(1) = -1 \Rightarrow -2 + a - b + 2 = -1 \Rightarrow a - b = -1$$

$$x^2 = 2 + 2 - 4\sqrt{2} \Rightarrow v - 4\sqrt{2}$$

$$f(x) = 4\sqrt{2} - 1 \Rightarrow \frac{v - 4\sqrt{2} + 4\sqrt{2} - 1 + 1}{v - 4\sqrt{2} + 4\sqrt{2} - 1 + v} = \frac{4}{4} = \frac{2}{2}$$

٦

$$x - \frac{1}{x} = 2 \Rightarrow (x - \frac{1}{x})^2 = 4 \Rightarrow x^2 + \frac{1}{x^2} - 2 = 4 \Rightarrow x^2 + \frac{1}{x^2} = 6$$

$$f(x - \frac{1}{x}) = x^2 + \frac{1}{x^2} \Rightarrow f(2) = 6$$

٧

$$4 - x^2 \geq 0 \Rightarrow 2 \geq x^2 \Rightarrow 2 \geq x \geq -2$$

$$\text{الف) } \left\{ (2, 0), (1, \frac{1}{\sqrt{2}}), (0, \frac{2}{\sqrt{2}}) \right\}$$

$$\text{ب) } \left\{ (1, \frac{1}{\sqrt{2}}), (0, \frac{2}{\sqrt{2}}) \right\}$$

٨

$$\text{الف) } \left\{ (4, 2), (3, 1), (-5, 4), (1, -4) \right\}$$

$$\text{ب) } \left\{ (2, 2), (4, 5), (-5, 2), (2, -1) \right\}$$

$$\text{ج) } \left\{ (4, 4), (3, 5), (-5, 1), (1, 1) \right\}$$

$$\text{د) } \left\{ (1, 1), (2, 4), (-5, 2), (1, -2) \right\}$$

٩

$$\text{الف) } \left\{ (1, 3), (2, 1), (2, 2) \right\}$$

$$\text{ب) } \left\{ (2, 4), (2, -2) \right\}$$

١٠