

$y = \sqrt{x f(x)} \Rightarrow x f(x) \geq 0 \Rightarrow f(x) \geq 0 = [-2, -1] \cup [0, 4]$
 $\Rightarrow f(x) \leq 0 = [-9, -4] \cup [2, 0]$
 $D_f = [-9, -4] \cup [2, 0] \cup [0, 4] = [-9, -4] \cup [2, 0] \cup [0, 4]$
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$f(x) \Rightarrow (-9, -4) \cup (-2, 0) \cup (2, 4)$
 $f(x) \Rightarrow (-9, -2) \cup (0, 2)$
 $D_f = (-9, -2) \cup (0, 2)$
 $D_f = (-9, -2) \cup (0, 2)$
 $D_f = (-9, -2) \cup (0, 2)$

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$f(x) - 2f(x) = x^2 - 2x + 4$
 $\Rightarrow f(x) - 2f(x) = 2$
 $\Rightarrow -f(x) = 2 \Rightarrow -2f(x) = 4$
 $\Rightarrow f(-2) - 2f(2) = 14 \Rightarrow f(-2) = 10$

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$f(1) = 5 \Rightarrow f(5) = 2$
 $f(5) = 2 \Rightarrow f(2) = 5$
 $v + 2 = 9$

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

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

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

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

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

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

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

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

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

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

$$\text{ج) } \{(4, 4), (2, 4), (-5, 12), (1, 12)\}$$

$$\text{د) } \{(1, 1), (\frac{2}{3}, 4), (-\frac{5}{2}, 2), (\frac{1}{2}, -2)\}$$

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

$$\text{ب) } \{(2, 4), (3, -2)\}$$

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