

$$D_{f(x)} = [-4, 5]$$

$$D_y \rightarrow x \cdot f(x) \geq 0$$

$\swarrow$
 $\downarrow$
 $-4, 2, 5$

$$\begin{array}{ccccccc} & -4 & 0 & 2 & 5 & & \\ \hline & - & + & - & + & // & \end{array}$$

$$D_y = [-4, 0] \cup [2, 5]$$

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$$D_{f(x)} = [-4, 5]$$

$$D_y \rightarrow \frac{-x}{f(x)} \geq 0$$

$\swarrow$
 $\downarrow$
 $-3, 0, 2, 5$

$$\begin{array}{ccccccc} & -3 & 0 & 2 & 5 & & \\ \hline & - & + & - & + & // & \end{array}$$

$$D_y = (-3, 0) \cup (0, 2)$$

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اعداد صحیح موجود در دامنه $y \leftarrow 1, -1, -2 \leftarrow 3$

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$$x=2 \rightarrow f(2) - 2f(2) = 4 - 4 + 4 \rightarrow -f(2) = 2$$

$$x=-2 \rightarrow f(-2) - 2(-2) = 4 + 4 + 4$$

$$f(-2) = 10$$

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

$$f(5) = 2 \rightarrow f(2) = 5 \Rightarrow 2+5=7$$

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$$f(x-1) = ax^2 - 2ax + a - bx + b + 2$$

$$f(x-1) - f(x) = 4x + 2 \rightarrow (ax^2 - 2ax + a - bx + b + 2) - (ax^2 - bx + 2) = -2ax + a + b$$

$$-2a = 4 \Rightarrow a = -2 \quad / \quad a + b = 2 \quad / \quad -2 + b = 2 \Rightarrow b = 4$$

$$a - b = -2 - 4 = -6$$

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$f(1) = 9 - 9 + 1 = 1$ $f(-1) = 1 + 9 + 1 = 11$ $f(2) = 9 - 9 + 1 = 1$	$\rightarrow \frac{f(1) + 9}{(-1)^1} = 10$	6
$f(9) = 3 \times 9 + 1 = 28$ $f(-9) = (-9)^2 = 81$ $f(2) = 10$	$\rightarrow \frac{3(11) - 2(81)}{10} = \frac{33 - 162}{10} = \frac{-129}{10}$	7
$f(9) = 1 \rightarrow f(1) = 9$ $f(4) = 2 \rightarrow f(2) = 4$ $f(1) = 9$	$\rightarrow \frac{4 - 9}{4 - 2} = \frac{-5}{2} = -2.5$	8
$\frac{(\sqrt{3} - 2)^2 + 9(\sqrt{3} - 2) + 9}{(\sqrt{3} - 2)^2 + 9(\sqrt{3} - 2) + 9} = \frac{\sqrt{3}^2 - 4\sqrt{3} + 4 + 9\sqrt{3} - 18 + 9}{\sqrt{3}^2 - 4\sqrt{3} + 4 + 9\sqrt{3} - 18 + 9} = \frac{1}{1} = 1$		9
$f(\sqrt{x}) = \sqrt{x}^2 + \frac{1}{\sqrt{x}^2} = x + \frac{1}{x} = \frac{x^2}{x} = x$ $(f(\sqrt{x}))^2 - f(x) = x^2 - x + \frac{1}{x^2} = \frac{1}{x^2}$		10