

Date _____

Topic _____

(دهم B)

14

(طاهه جبري)

-1

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

باید x ، $f(x)$ هم علامت باشند.

← (ربع سوم، ربع اول)

$$x \in [-5, 0] \cup [2, 5] \quad \checkmark$$

(2)

-2

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

باید هم علامت باشند.

و $f(x)$ منفی باشد.

~~xxxxxxxxxxxxxxxx~~

$$(x \in (-2, 0) \cup (0, -3)) \quad \checkmark$$

(2)

(3 عدد صحیح)

$$f(x) - 2f(2) = x^2 - 3x + 4$$

-3

$$f(2) - 2f(2) = 4 - 6 + 4 = 2$$

$$-f(2) = 2 \rightarrow f(2) = -2$$

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

$$(f(-2) = 10) \quad \checkmark$$

(2)

$$f(n) = \begin{cases} n - \sqrt{n+1} & n > 3 \\ 2n + 3 & n \leq 3 \end{cases}$$

$$f(f(4)) + f(f(1)) \quad ? = (9) \quad (y)$$

$\underbrace{\underbrace{f(4)}_{(2)}}_{(5)} + \underbrace{\underbrace{f(1)}_{(2)}}_{(2)}$

$$f(n-1) - f(n) = 4n + 5$$

$$a(n-1)^2 - b(n-1) + 3 - an^2 + bn - 2 = 4n + 5$$

$$an^2 + a - 2n^2a - bn + b + 3 - an^2 + bn - 2 = 4n + 5$$

$$a + b - 2na = 4n + 5$$

$$\begin{array}{l} a \longrightarrow a - 3 \\ b \longrightarrow a + 3 \end{array} \quad (a - b = -3 - a = -4) \quad (y)$$

$$f(n) = \frac{(n+2)(n+2)+1}{4} \quad \epsilon$$

$$\frac{(n+2)(n+2)+3}{4} = \frac{\epsilon}{4}$$

$$\frac{2}{\sqrt{4}} \quad \frac{2}{\sqrt{4}}$$

$$\left(\frac{2}{\sqrt{4}} \right)$$

$$(y)$$

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

✓

$$f\left(n - \frac{1}{n}\right)$$

$$f(n) = n^2 + 1$$

$$f(-3) = 11$$

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

$$\left(n - \frac{1}{n}\right)^2 - 2 \rightarrow f(-3) \quad 9 - 2 = 7$$

الف) $\frac{p}{9}$

ب) $\frac{9}{p}$

$$\sqrt{9 - n^2} \rightarrow 9 - n^2 \geq 0 \quad 9 \geq n^2 \quad \checkmark$$

$$n \in [-3, 3]$$

$$n \in \mathbb{Z}$$

$$g(n) = \{(-3, 0), (3, 0), (2, \sqrt{5}), (-2, \sqrt{5}),$$

$$(0, 3), (-1, \sqrt{8}), (1, \sqrt{8})\}$$

الف

$$\frac{p}{9} = \{(2, 0), (1, \frac{2}{\sqrt{5}}), (0, \frac{2}{3})\}$$

$$\frac{9}{p} = \{(2, \frac{9}{2}), (1, 9), (0, \frac{9}{3})\}$$

✓

2

$\frac{-2\sqrt{5}}{2}$

$\sqrt{5}$

الف) $2f(x)$ 2.) $3f^2(x) + 1$ - 9ب) $f(x) + 1$ د) $f(2x)$

الف) $\rightarrow 2f(x) = \{(2, 2), (3, 8), (-5, 4), (1, -4)\}$

ب) $\rightarrow f(x) + 1 = \{(2, 3), (3, 9), (-5, 5), (1, 0)\}$

2.) $\rightarrow 3f^2(x) + 1 = \{(2, 13), (3, 25), (-5, 17), (1, 1)\}$

د) $\rightarrow f(2x) = \{(1, 2), (\frac{3}{2}, 8), (-\frac{5}{2}, 4), (\frac{1}{2}, -4)\}$

و- $f - g$ ب) $\frac{2f}{g}$

الف) $\rightarrow f - g = \{(1, 4), (2, 2), (3, 2)\}$

ب) $\rightarrow \frac{2f}{g} = \{(1, \frac{4}{0}), (2, 4), (3, -2)\}$