

نام و نام خانوادگی ... (نام خانوادگی) ... پاسخنامه تشریحی تکلیف شماره ... کلاس ...

$$x^2 f(x) \geq 0$$

$$\left(\frac{1}{x}\right)^{x-1} - 1 \leq 0$$

$$x \leq 1$$

|   |   |
|---|---|
| 0 | 1 |
| + | + |
| - | + |
| - | + |

$$D_f = \mathbb{R} [0, 1]$$

1

$$\sqrt{-x+2} - x + 2 \geq 0$$

$$-x+2 \geq x \quad x \leq 1$$

$$-x+2 \leq x$$

$$D_f = (-\infty, 1]$$

2

$$\sqrt{\frac{x-1}{f(x)}} \rightarrow f(x) \neq 0 \rightarrow x \notin \{-4, -3, 0, 2\}$$

$$D_f = (-4, -1] \cup (2, 3)$$

|                           |      |      |     |     |     |
|---------------------------|------|------|-----|-----|-----|
| $x$                       | $-4$ | $-3$ | $0$ | $2$ | $3$ |
| $f(x)$                    | +    | -    | -   | +   | +   |
| $\sqrt{\frac{x-1}{f(x)}}$ | -    | -    | -   | +   | +   |

3

$$x^2 + x - \frac{9}{x} - \frac{9}{x} = \frac{x^3 + x^2 - 18x - 9}{x^2} \geq 0$$

$$x^3 + x^2 - 18x - 9 = 0$$

$$x^2(x+1) - 9(x+1) = 0$$

$$(x^2 - 9)(x+1) = 0$$

$$(x-3)(x+3)(x+1) = 0$$

$$x = 3, -3, -1$$

4

$$y = \dots$$

$$f(1) - \log(f) - 1 = \wedge$$

$$f(x) =$$

$$x_1 = \sqrt{x_2} - 1, \quad x_2 = x_1, \quad f(\sqrt{x_1}) \Rightarrow x_1 - x_1$$

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

$$f(x) = \frac{f(x)}{f(x)} = f(x) \cdot g(x) = 1$$

$$D_f \times \{1, 2\}$$

$$\frac{g}{f} \rightarrow \frac{\frac{1}{x+2}}{f-1+2} = \frac{1}{x} \Rightarrow \frac{1}{x}$$

$$f(x) = \{(1, 1), (2, 1), (3, 2), (4, 2)\}$$

$$f(x) = \{(1, 1), (2, 1), (3, 2)\}$$