

$\sqrt{a} f(n) \quad [-5, 0] \cup [2, 5] = Df$ $\frac{1}{n} f(n) \geq 0$ $\frac{1}{n} f(n) \geq 0$ $\frac{1}{n} f(n) \geq 0$ $\frac{1}{n} f(n) \geq 0$	1
$\sqrt{\frac{-n}{f(n)}}$ $f(n) \neq 0$ $\frac{-n}{f(n)} \geq 0$ $Df = [-4, 3) \cup (0, 2)$	2
$f(2) - 2f(2) = \frac{f-9+f}{-2} - f(2) = -4 \Rightarrow -2f(2) = -4$ $f(-2) - f = \frac{f+9+f}{14} \Rightarrow \boxed{f(-2) = 11}$	3
$f(5) = 5 - \sqrt{9} = 2$ $f(2) = 2 \times 2 + 2 = \boxed{4}$ $f(1) = 2 \times 1 + 2 = 4$ $f(5) = \boxed{2}$ $4 + 2 = \boxed{6}$	4
$n=1 \Rightarrow f(0) - f(1) = 4 + 2$ $f(0) = \dots \dots \dots 0a - 0b + 2 = 2$ $f(1) = a - b + 2 \quad 2 - (a - b + 2) = -a + b = 1$ $\boxed{a - b = -1}$	5

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

$$f(-1) = 1 + 1 + 1 = 3$$

$$f(x) = -1$$

$$\frac{f(x) + f(-1)}{f'(x)} \rightarrow$$

$$\frac{1 + 0}{1} = \boxed{1}$$

6

$$f(x) = 3x^2 + 1 = 13$$

$$f(x) = (x)^2 = x$$

$$f(x) = 3x^2 + 1 = 13$$

$$\frac{f'(x) - f'(-x)}{f(x)} \rightarrow$$

$$\frac{6x - 1}{13} = \frac{6}{13}$$

7

$$\frac{f(1) - f(x)}{f(x) + 1} = \frac{4 - 9}{9 - 1} = \boxed{-\frac{5}{8}}$$

8

$$(\sqrt{x} - 1)^2 = x + 1 - 2\sqrt{x}$$

$$f(\sqrt{x}) = f(x) - 1$$

$$\frac{f(x) + f(1) + 1}{f(x) + 1} = \frac{x + 1 - 2\sqrt{x} + 1 + 1}{x + 1 - 2\sqrt{x} + 1 + 1} = \frac{x + 3 - 2\sqrt{x}}{x + 3 - 2\sqrt{x}} = \boxed{1}$$

9

$$f(\sqrt{n}) = n + \frac{1}{n}$$

$$(n + \frac{1}{n})^2 = n^2 + \frac{1}{n^2} + 2$$

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

10