

$f(x) = x^2 - 2x + 1 = 1 \rightarrow x f(x) = 4$ $f(-1) = 1 + 2 + 1 = 4$ $f(x) = 4 - 4 + 1 = 1 \rightarrow -1 = 1$	$\frac{4+1}{1} = \boxed{5}$	6
$f(x) \rightarrow x f(x) = 1 \rightarrow x f(x) = 4$ $f(-x) = (-x)^2 = x \rightarrow x f(-x) = 1$ $f(x) = 4 + 1 = 5$	$\frac{4-1}{1} = \frac{3}{1}$	7
$\frac{f(f(x)) - f(f(y))}{f(1) - 1} = \frac{4 - 4}{1 - 1} = 0$		8
$\frac{(\sqrt{x-2})^2 + f(\sqrt{x-2}) + 9}{(\sqrt{x-2})^2 + f(\sqrt{x-2}) + 9} = x$ $\frac{x^2 + f(x) + 9}{x^2 + f(x) + 9} = \boxed{\frac{x}{1}}$		9
$f(\sqrt{x}) \rightarrow \left(x + \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} + 2$ $f(x) = x^2 + \frac{1}{x^2}$ $x^2 + \frac{1}{x^2} + 2 - \left(x^2 + \frac{1}{x^2}\right) = \boxed{2}$		10

نام و نام خانوادگی (امید) الواسی پاسخنامه تشریحی تکلیف شماره کلاس (هم) (خبر)

$$n(n) \geq 0 \quad n \rightarrow \text{مقدور مثبت}$$

$$Df = [-\infty, 0] \cup [2, \infty]$$

۱

$$\frac{-n}{f(n)} \geq 0$$

$$n \rightarrow \text{مقدور مثبت} \quad f(n) \rightarrow \text{مقدور مثبت}$$

$$Df = (-\infty, 0) \cup (0, 2)$$

$$\boxed{[-1, 1]}$$

۲

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

$$f(x) = -x$$

$$f(-2) - 2(-2) = 14$$

$$\boxed{f(-2) = 10}$$

۳

$$f(\omega) = \omega - \sqrt{\omega + 4} = \omega - 2 = 2 \quad f(2) = 4 + 2 \quad (\checkmark)$$

$$f(1) = \omega \rightarrow f(\omega) = 8 \quad \boxed{\sqrt{1+2} = 1}$$

۴

$$a(n-1)^2 - b(n-1) + c$$

$$a - b = -2 - \omega = \boxed{-1}$$

$$a + b - 2an = 4n + 2$$

$$\boxed{a = -2} \quad b = \omega$$

$$-2 + b + 4n = 4n + 2 \quad b = \omega$$

۵