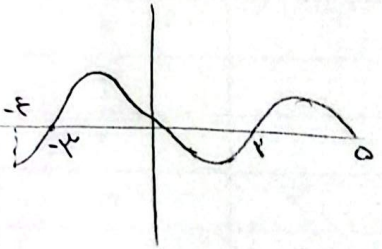
	$y = \sqrt{x f(x)} = ?$ $x f(x) \geq 0$ $\left. \begin{array}{l} x = -4 \Rightarrow -4 f(-4) < 0 \quad \times \\ x = -5 \Rightarrow -5 f(-5) \geq 0 \\ x = 2 \Rightarrow 2 f(2) \geq 0 \\ x = 5 \Rightarrow 5 f(5) \geq 0 \end{array} \right\} [-5, 0] \cup [2, 5]$	۱
	$\frac{-x}{f(x)} \geq 0, \quad f(x) \neq 0$ $x = -3 \Rightarrow \frac{x}{f(x)} = \frac{x}{0} \quad \Rightarrow (-3, 0) \cup (0, 2)$ $x = 2 \Rightarrow \frac{-x}{f(x)} = \frac{-2}{0} \quad \Rightarrow -3, -1, 1 \Rightarrow \boxed{3}$	۲
$f(x) - 2f(2) = x^2 - 3x + 5$ $f(-2) + 5 = 5 + 4 + 5$ $\boxed{f(x) = 10}$	$x = 2 \Rightarrow f(2) - 2f(2) = 5 - 4 + 5$ $-f(2) = 5 \Rightarrow f(2) = -5$	۳
$f(x) = \begin{cases} x - \sqrt{x+5} & x \geq 3 \\ 2x + 2 & x < 3 \end{cases}$ $f(5) = 5 - \sqrt{10} = 2$ $f(2) = 5 + 2 = 7$ $f(1) = 2 + 3 = 5$	$f(f(5)) + f(f(1)) = 9$ $\underbrace{f(2)}_7 + \underbrace{f(5)}_2 = 9$	۴
$F(x) = ax^2 - bx + 2$ $F(x-1) - F(x) = 4x + 2$ $a(x^2 - 2x + 1) - b(x-1) + 2 - (ax^2 - bx + 2) = -2ax + a + b = 4x + 2$ $-2a = 4 \Rightarrow a = -2$ $-2 + b = 2 \Rightarrow b = 4$ $a - b = \boxed{-6}$	$f(x-1) = a(x-1)^2 - b(x-1) + 2$	۵

$$f(x) = x^2 - 4x + 1$$

$$\frac{f(3) + f(-1)}{f(2)} = \frac{0}{1} = 0$$

$$f(3) = 9 - 12 + 1 = -2$$

$$f(-1) = 1 + 4 + 1 = 6$$

$$f(2) = 4 - 8 + 1 = -3$$

$$\begin{cases} 3x+1 & x > 2 \\ x^2 & x < 2 \end{cases}$$

$$f(3) = 10 + 1 = 11$$

$$f(2) = 4$$

$$f(2) = f(2) + 1 = 5$$

$$\frac{f(3) - f(2)}{f(2)} = \frac{7}{4}$$

$$\frac{f(f(3)) - f(f(2))}{f(1) - 2} = \frac{9 - 4}{1 - 2} = \frac{5}{-1} = -5$$

$$f(x) = \frac{x^2 + 4x + 9}{x^2 + 6x + 10} = \frac{(x+2)^2 + 5}{(x+3)^2 + 1} = \frac{(\sqrt{5})^2 + 5}{(\sqrt{5})^2 + 1} = \frac{10}{6} = \frac{5}{3}$$

$$f(2) = \frac{4 + 8 + 9}{4 + 12 + 10} = \frac{21}{26}$$

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

$$f(\sqrt{x}) = (\sqrt{x})^2 + \frac{1}{(\sqrt{x})^2} = \left(x + \frac{1}{x}\right)^2 = x^2 + \frac{1}{x^2} + 2 = x^2 + \frac{1}{x^2} + 2$$