

$$f(x) = \begin{cases} (a+1)(x+1) & , x > 1 \\ r_a + r_x & , x \leq 1 \end{cases}$$

$$r \underline{f(\Delta)} = h(-r) + a$$

$$\gamma(\overline{a+1})(v) = \gamma a - \gamma + a$$

$$1\text{K}_a + 1\text{K} = \text{K}_a - \text{K} \Rightarrow \frac{10a}{1.} = \frac{-1\text{A}}{1.} = a = -1, \text{A}$$

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

$$* = \frac{\sqrt{2-\sqrt{3}}}{\sqrt{2-\sqrt{3}}} + \frac{1}{\sqrt{2-\sqrt{3}}} + \frac{2}{\sqrt{2-\sqrt{3}}} + \frac{\sqrt{2+\sqrt{3}}}{\sqrt{2+\sqrt{3}}} + \frac{1}{\sqrt{2+\sqrt{3}}} + \frac{2}{\sqrt{2+\sqrt{3}}} = 4 + \sqrt{4} + \sqrt{4} = 4 + 2\sqrt{4}$$

$$\textcircled{1} (\sqrt{r-\sqrt{r}} + \sqrt{r+\sqrt{r}}) = A^r \Rightarrow r-\sqrt{r} + r+\sqrt{r} + r(\sqrt{r-\sqrt{r}})(\sqrt{r+\sqrt{r}}) = r+r+r = 3r = 9 \Rightarrow \sqrt{r} = A^r$$

(۲) $\frac{1}{\sqrt{x-\sqrt{x}}} + \frac{1}{\sqrt{x+\sqrt{x}}} = \frac{\sqrt{x+\sqrt{x}} + \sqrt{x-\sqrt{x}}}{(\sqrt{x-\sqrt{x}})(\sqrt{x+\sqrt{x}})} = \frac{\sqrt{x+\sqrt{x}} + \sqrt{x-\sqrt{x}}}{x - x} = A^r$
 $F(x) = ?$

$$x \mapsto f(x) - f(-x) = f_2 - x$$

$$\begin{aligned} x \uparrow & \begin{cases} f(x) - f(-x) = f_2 x^2 - x \\ f(-x) - f(x) = \frac{f(-2x)}{f_2 x^2} + x \end{cases} \Rightarrow \begin{cases} f(x) - f(-x) = 12x^2 - 2x \\ f(-x) - f(x) = 12x^2 + 2x \end{cases} \end{aligned}$$

$$\frac{-\Delta f(x)}{-\Delta} = \frac{1 \cdot x^2 + x}{-\Delta} \Rightarrow f(x) = -x^2 - \frac{x}{\Delta}$$

$$(x+r)f(x) - rx + (x+r) = rx^r - mx + r_{m-1} \quad \{1 \Delta f(\cdot) - 1 \Delta m = r \Delta$$

$$(-1+1)f(-1) - r(-r)(f(\cdot)) = r(-r)^r - m(-r) + [m-1] \cdot f(\cdot) + 1 \cdot m - 1 \Delta$$

$$x + y = 0 \rightarrow x = -y$$

$$g f(\cdot) = 19 + r_m + r_{m-1} - \{ g f(\cdot) = 1\Delta + \Delta_m \overset{r_m}{-} g f(\cdot) - \Delta_m = 1\Delta$$

$$x=0 \Rightarrow r f(\cdot) - \cancel{r(\cdot)(f)} = f(\cdot) - \cancel{r(\cdot)} + r_{m-1} \Rightarrow r f(\cdot) = r_{m-1}$$

$$f(x) + f\left(\frac{1}{x}\right) = \frac{x^2 - 11x + 1}{x}$$

$$f(-1) = ?$$

$$\textcircled{1} \quad f(-1) + f(-1) = \frac{f(-1) + f(-1) + f(-1)}{-1} = -11 \Rightarrow 2f(-1) = -11 \Rightarrow f(-1) = -\frac{11}{2}$$

$$\textcircled{2} \rightarrow ax + b + \frac{a}{x} + b = \frac{rx^r - 11x + r}{x} \Rightarrow ax + \frac{a}{x} + 2b = rx - 11 + \frac{r}{x} \Rightarrow \frac{a-r}{b=-9}$$

$f(x) = (x-1)\sqrt{1-x} \Rightarrow 1-x \geq 0 \Rightarrow x \leq 1 \Rightarrow D_f = (-\infty, 1]$ $g(x) = -\frac{\sqrt{(1-x)^3}}{(1-x)^2(1-x)} \Rightarrow 1-x \geq 0 \Rightarrow x \leq 1 \Rightarrow D_g = (-\infty, 1]$ $-1 \frac{(1-x)\sqrt{1-x}}{(1-x)^2} = (x-1)\sqrt{1-x}$	۶
$f(x) = x\sqrt{x} \Rightarrow x \geq 0 \Rightarrow D_f = [0, +\infty)$ $g(x) = \frac{\sqrt{x^3}}{\sqrt{x^2 \cdot x}} \Rightarrow x \geq 0 \Rightarrow D_g = [0, +\infty)$ $\frac{\sqrt{x^3}}{\sqrt{x^2 \cdot x}} = \frac{x\sqrt{x}}{x\sqrt{x}} = \sqrt{x}$	۷
$f(x) = \lfloor \sqrt{x} \rfloor \Rightarrow x \geq 0 \Rightarrow \lfloor \sqrt{x} \rfloor \leq \sqrt{x}$ $g(x) = \sqrt{x- x } \Rightarrow x- x \geq 0 \Rightarrow x \geq x \Rightarrow [0, +\infty)$ $\begin{cases} x < 0 \Rightarrow x - (-x) = 2x < 0 \\ x \geq 0 \Rightarrow x - x = 0 \end{cases} \Rightarrow g(x) = 0$	۸
$f(x) = \left\lfloor \frac{x+1}{x-1} \right\rfloor(1) \Rightarrow \left\lfloor \frac{2}{0} \right\rfloor = 3 \Rightarrow \frac{f(1)+g(1)}{f(1)-g(1)} = \frac{4+1}{4-1} = \frac{5}{3}$ $f(x) = \left\lfloor \frac{x+1}{x-1} \right\rfloor(2) \Rightarrow \left\lfloor \frac{3}{2} \right\rfloor = 1 \Rightarrow \frac{f(2)+g(2)}{f(2)-g(2)} = \frac{2+2}{2-2} = \frac{4}{0}$ $c) = f(0)g(-1) \Rightarrow 0 \cdot x(1) = 0$	۹
$g(x) = (1,1)(0,4)(\frac{1}{2},\Delta)(\frac{1}{2},1)f(x) = \{(1,1)(-1,4)(0,4)(-1,2)(2,-1)\}$ $h(x) = f'(x)$ $\Rightarrow x =1 \Rightarrow x=\pm 1 \quad x =-1 \Rightarrow \text{no solution} \quad x =2 \Rightarrow x=\pm 2$ $\Rightarrow x =0 \Rightarrow x=0$	۱۰