

$f(x^2+x) = 2x^2-1$ $x^2+x=10 \Rightarrow \boxed{x=2}$ $x^2-x=2 \Rightarrow \boxed{x=1}$	$f(10) + f(2) = 20 + 1 = \boxed{21}$ 5	9
$g(\sqrt[3]{x}-2) = (\sqrt[3]{x}-2)^3 + 9(\sqrt[3]{x}-2)^2 + 12(\sqrt[3]{x}-2) =$ $x - 9\sqrt[3]{x} + 12 + 12\sqrt[3]{x} - 36 + 36\sqrt[3]{x} + 18 - 24\sqrt[3]{x} + 24\sqrt[3]{x} - 12 = -20$ $f(\sqrt[3]{x}+2) = (\sqrt[3]{x}+2)^3 - 6(\sqrt[3]{x}+2)^2 + 12(\sqrt[3]{x}+2) =$ $x + 6\sqrt[3]{x} + 12 - 6\sqrt[3]{x} - 12\sqrt[3]{x} + 24\sqrt[3]{x} + 24 = 10$ $\frac{-20}{10} = \boxed{-2}$		7
$f(x) = \sqrt{x+5}\sqrt{x-5}$ $g(x) = \sqrt{x-5}\sqrt{x+5}$ $\frac{a+b}{c} = \frac{2}{-5} = -\frac{2}{5}$ $f(x) + g(x) = \sqrt{x+5}\sqrt{x-5} + \sqrt{x-5}\sqrt{x+5} =$ $(\sqrt{x+5} + \sqrt{x-5})^2 = 2\sqrt{x-5}$ $2\sqrt{x-5} = a + b\sqrt{x+c} \Rightarrow \boxed{a+b=2} \quad \boxed{c=-5}$		1
$f(x) = \frac{x+2}{x^2-5x+2} \Rightarrow x^2-5x+2 \neq 0 \Rightarrow (x-1)(x-4) \Rightarrow \boxed{x \neq 1, 4}$ $Dom f = \mathbb{R} - \{1, 4\} \Rightarrow$ $f(x) = (2, \frac{1}{2}), (0, \frac{2}{2})$ $g(x) = (2, 1), (0, \frac{1}{2}) \Rightarrow \frac{g}{f} =$ $(2, -\frac{1}{2}), (0, \frac{1}{2})$	5	9
ا) $f(2x) = \{(\frac{1}{2}, 2), (\frac{\sqrt{2}}{2}, -1), (2, 2), (-\frac{1}{2}, 2)\}$ ب) $f(x^2) = \{(1, 2), (\sqrt{2}, -1), (2, 2)\}$ ج) $2g^2(x) + 1 = \{(-\sqrt{2}, 1), (1, 1), (2, 9), (-1, 1)\}$ د) $\{(1, -4), (\sqrt{2}, -1)\} = \frac{2f}{g}$	1, 0	10

ب) 10

$$\begin{cases} x^2=1 \rightarrow x=\pm 1 \\ x^2=2 \rightarrow x=\pm\sqrt{2} \\ x^2=4 \rightarrow x=\pm 2 \\ x^2=-1 \rightarrow x \end{cases} \rightarrow \{(\pm 1, 2)(\pm\sqrt{2}, -1)(\pm 2, 2)\}$$