

$$1 - 2n = -1 \rightarrow n = 1 \rightarrow f_{(-1)} = 2$$

$$1 - 2n = 3 \rightarrow n = -1 \rightarrow f_{(3)} = 1$$

$$f_{(-1)} + f_{(3)} = \boxed{3}$$

$$n + \sqrt{n} = 4 \quad \sqrt{n} = t \rightarrow t^2 + t - 4 = 0 \rightarrow (t+3)(t-1) = 0 \rightarrow \begin{cases} \sqrt{n} = 1 \text{ قبول} \rightarrow n = 1 \\ \sqrt{n} = -3 \text{ قبول} \end{cases}$$

$$f_{(4)} = (1)^2 + 3(1) = 1 + 3 = \boxed{4}$$

$$= (n-1)^3 + (n-1) + (1-n)^3 + (1-n) = \underline{n^3 - 1} + \underline{3n} - \underline{3n^2} + \underline{1 - n^3} + \underline{3n^2} - \underline{3n} = 0$$

$$\rightarrow \boxed{F(n-1) + f_{(1-n)} = 0}$$

$$f_{(1)} = \sqrt{2-3a} + k - 1 \quad g_{(1)} = \sqrt{b-2} + 3k$$

$$2f_{(1)} - g_{(1)} = 2\sqrt{2-3a} + 2k - 2 - \sqrt{b-2} - 3k = k$$

$$2k - 2 - 3k = k \rightarrow \boxed{k = -1}$$

$$\rightarrow 3a - \frac{b}{2} - k = 2 - 2 + 1 = 1$$

$$b - 2 \geq 0 \rightarrow n \leq \frac{b}{2}$$

$$2a - 3a \geq 0 \rightarrow n \geq \frac{2a}{3}$$

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$$\frac{b}{2} = \frac{2a}{3} = 1 \rightarrow \boxed{b=2, a=\frac{3}{2}}$$

$$n + 2 \geq 0 \rightarrow n \geq -1, m - n \geq 0 \rightarrow n \leq m \rightarrow -1 \leq n \leq m, D_{f \circ g} = [-1, 2]$$

$$\rightarrow \boxed{m=2} \quad f_{(2)} = \sqrt{2-3} + n = 2+n \quad g_2 = 2\sqrt{2}$$

$$f - g_2 = 2+n - 2\sqrt{2} = 2\sqrt{2}$$

$$\rightarrow n = 2\sqrt{2} - 2$$

$$\rightarrow \boxed{m+n = 2 + 2\sqrt{2}}$$

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