$$\sum_{\substack{0 \le i \le m \\ 0 < j < n}} f(i,j) \mathcal{R} \prod_{i=\alpha_{i+1}}^{\infty} a_i \sin(2\pi f x_i) \sqrt{\prod_{i=\alpha_{i+1}}^{\frac{x}{2\pi^2}}}$$