

$$\mathbb{S} \cdot f = \mathbb{S} \cdot \sum_{\alpha \in \mathbb{Z}} f_{\alpha} \cdot \delta_{\alpha}$$

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$$\langle f_{\alpha} | \delta_{\alpha} \rangle = f_{\alpha} \quad \langle \delta_{\alpha} | f_{\alpha} \rangle = f_{\alpha}$$

$$\langle \delta_{\alpha} | \delta_{\beta} \rangle = \delta_{\alpha, \beta}$$

$$\langle f_{\alpha} | f_{\beta} \rangle = f_{\alpha} f_{\beta}$$

$$\langle f_{\alpha} | \delta_{\beta} \rangle = f_{\alpha} \delta_{\alpha, \beta}$$

$$\langle \delta_{\alpha} | f_{\beta} \rangle = \delta_{\alpha, \beta} f_{\beta}$$

