$$\begin{aligned} d(2^{n-1}a^2 + 2^{2n-1}(a \smile_1 b)) &= 2^{n-1}(a \cdot 2^n b + 2^n b \cdot a - 2^{2n}(b \smile_1 b) + 2^n(ab - ba)) \\ &= 2^{n-1}(2^{n+1}ab - 2^{2n}(b \smile_1 b)) \\ &= 2^{2n}(ab - 2^{n-1}(b \smile_1 b)). \end{aligned}$$