$\underline{\begin{array}{c}2.72\\ >2\end{array}}$

$$a_1 = \sqrt{2}$$

$$2S_n = S \longrightarrow \frac{2\cancel{a_1}(q^n-1)}{\underset{-1}{\cancel{q-1}}} = \frac{\cancel{a_1}}{\cancel{1-q}} \longrightarrow -2(q^n-1) = 1 \longrightarrow \boxed{q^n = -\frac{1}{2}+1 = \frac{1}{2}}$$

$$\prod_{i=1}^{n} a_i = a_1 \cdot a_2 \cdots a_n = a_1 \cdot (a_1 q)(a_1 q^2) \cdots (a_1 q^{n-1}) = a_1^n \, q^{1+2+\ldots+n-1} = a_1^n q^{\frac{n-1}{2}\cdot n} = a_1^n q^{\frac{n^2-n}{2}}$$

$$= \left[a_1^n q^{\frac{n-1}{2}}\right]^n = \sqrt{2}^{\,n} \, q^{\frac{n^2}{2}} \cdot q^{-\frac{n}{2}} = (\sqrt{2})^n \, (q^n)^{\frac{n}{2}} \cdot (q^n)^{-\frac{1}{2}} = (\sqrt{2})^n \cdot \left(\frac{1}{2}\right)^{n/2} \cdot \left(\frac{1}{2}\right)^{-\frac{1}{2}} =$$

$$= (\sqrt{2})^n \cdot \left(\frac{1}{2}\right)^{n/2} \cdot 2^{\frac{1}{2}} = 2^{\frac{n}{2}} \cdot 2^{-\frac{n}{2}} \cdot \sqrt{2} = \sqrt{2}$$