$\boxed{3.28}$

$$q = \frac{-2}{i-1} \cdot \frac{-i-1}{-i-1} = \frac{2i+2}{2} = 1+i$$

$$S_{12} = \frac{a_1(q^n-1)}{q-1} = \frac{(i-1)((1+i)^{12}-1)}{1+i-1} =$$

$$= \frac{(\sqrt{2}\,\mathrm{cis}\,135)((\sqrt{2}\,\mathrm{cis}\,45)^{12}-1)}{i} = \frac{\sqrt{2}\,\mathrm{cis}\,(135)[2^6\,\mathrm{cis}\,180-1]}{i} =$$

$$= \frac{\sqrt{2}\,\mathrm{cis}\,135(-64-1)}{i} = \frac{-65(i-1)}{i} \cdot \frac{-i}{-i} = -65-65i$$

$a = -65 \quad b = -65$