Answer on Question #58299 – Math – Complex Analysis

Question

Given any complex number C, then for any integer k,
i^{4k+1}=

Solution

$$i^{4k+1} = i \cdot i^{4k} = i \cdot (i^2)^k \cdot (i^2)^k = i \cdot (-1)^k \cdot (-1)^k = i \cdot (-1)^{2k} = i \cdot 1 = i.$$

Answer: i.