BECOME A MEMBER

ON STEADY

The Bright Side of
Mathematics

Day 23

Advent of Mathematical Symbols

Quaternions:

$\mathbb{H} \supseteq \mathbb{C}$ (William Rowan Hamilton)

$a, b, c, d \in \mathbb{R}$

↖ multiplication is not commutative

$$a + i \cdot b + j \cdot c + k \cdot d \quad , \quad i^2 = -1 \; , \; j^2 = -1 \; , \; k^2 = -1 \quad , \quad ijk = -1$$

$$\Rightarrow \quad i \cdot j = -j \cdot i$$