On the special meaning and usage of Japanese verb “osaeru” in mathematics
—towards the study of “unnoticeable” special vocabulary(4)

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In textbooks or papers of mathematics in Japanese, there are “unnoticeable” special vocabularies, which are very ordinary Japanese words but have meanings quite different from those in daily uses. Because they look ordinary at first glance, students who study Japanese feel difficulty in understanding these terms. Among them, we picked up ordinary and mathematical uses of Japanese verb “osaeru”, which are used as follow.

Ordinary use: Taroo wa te de doa o osaeta
(Taro put the door with his hand)

Mathematical use: \[ J_n \to \text{naru} \]
(We estimate \( J_n \) as \( J_n \leq \int_C |z - \xi|dz \).)

We collected ordinary-use-examples of “osaeru” from modern Japanese novels and newspapers, compared them with examples cited from mathematics, and pointed out their special meaning come from their special syntactic structure.