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How Mathematics Research Journals Select Articles

by Harriet Pollatsek

The *Notices* invited editors of four highly rated non-specialized research journals in mathematics to respond to questions about how they handle submission and consideration of papers.

Notices: What kinds of referee reports typically lead to acceptance or rejection of a paper?

Annals of Mathematics of Mathematics: With the quick reports, all reports should be enthusiastic to proceed. Once a full report is sought and received and indicates that the “serious” referee thinks the paper is suitable and is readable and is correct, then it is brought to the editors meeting for a vote.

Duke Mathematical Journal Mathematical Journal: The reports need to convince me that the paper has importance and novelty, represents a substantial advance in a subject, and is not better suited for a more specialized journal.

Pacific Journal of Mathematics Journal of Mathematics: Acceptance: a strongly positive report by a respected and active research mathematician on a paper in his or her own field. Rejection: A lukewarm or negative report(s) by the same.

Transactions of the American Mathematical Society: For acceptance, it should be a substantial report explaining why the results in the paper are new and significant.

Notices: Do editors typically confer on the decision to accept or reject a paper?

Annals of Mathematics of Mathematics: For acceptance yes; for rejection at an early stage, no.

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Duke Mathematical Journal: The managing editor always confers with one of the editors, if possible; but the managing editor alone is responsible for the decision on acceptance or rejection.

Pacific Journal of Mathematics: Rejection decisions are made by the handling editor without oversight.

Acceptance recommendations are made by handling editors to the managing editor. The managing editor either agrees (the typical case) or refers the paper back to the handling editor with a request for further explanation of the decision or further review.

Transactions of the American Mathematical Society: Usually our editors make the decisions autonomously. On occasion we confer. I am always inclined to defer to my colleagues’ expertise in their field.

Notices: When a paper is received by an editor, is it always sent to at least one referee? Under what circumstances is it sent to more than one referee?

Annals of Mathematics: No. Certain papers are rejected automatically if they make no mathematical or other sense. Other than the auto-reject papers, a quick opinion as to suitability for the *Annals of Mathematics* is requested from one or more experts. If the opinions are positive one seeks to have the paper fully refereed by one or more experts.

Duke Mathematical Journal: All papers are received by the managing editor. Initial opinions from several experts are solicited; the majority of submissions are thus rejected at this stage. If there is unanimous support, at least two full referee reports are solicited.

Pacific Journal of Mathematics: First part: No, *PJM* editors do receive manuscripts that are manifestly inappropriate for it. Editors will reject these without review, using a customizable form letter. Second part: Most editors use just one referee, but several routinely ask several referees.

We also have a formal “informal opinion” category that is very useful for preliminary evaluation.

Transactions of the American Mathematical Society:

We start by asking for a quick opinion by an expert. If that is positive then it's sent to a referee. Multiple referees are rare but might be necessary for long manuscripts for the *Memoirs*.

Notices: If a paper is sent to more than one referee, how does the editor handle the multiple reports?

Annals of Mathematics: As far as quick opinions, if there are two or more reports and not all are favorable the paper is rejected (and quickly) by one of the editors.

Duke Mathematical Journal: The managing editor reads them and decides whether a decision is clear; if not, he solicits more reports.

Pacific Journal of Mathematics: This is the handling editor's choice.

Transactions of the American Mathematical Society:

Multiple reports would inform the editor and author collectively. I have never seen radically different reports.

Notices: Are papers considered singly or in groups and in comparison to each other?

Annals of Mathematics: Once a paper has gone through the full refereeing process and all reports recommend acceptance, the paper is presented to all the editors at a bimonthly meeting. It is at that meeting that papers are voted on and finally accepted.

Duke Mathematical Journal: Papers are generally considered singly, except when a group of papers on similar subjects are being considered at the same time.

Pacific Journal of Mathematics: Singly.

Transactions of the American Mathematical Society:

They are considered singly but with full knowledge of the quality and scope of the journal and hence of other submissions. Referees do a good job of putting papers in context.

Notices: Is there a mechanism by which an author can indicate a possible conflict of interest by one or more potential referees? If so, how would you handle it?

Annals of Mathematics: The author can make such a request in his or her submission letter.

Duke Mathematical Journal: Authors will sometimes include a cover letter explaining their concerns. More frequently, a referee will back out because of a possible conflict of interest. I sometimes ask a neutral third party about a perceived conflict.

Pacific Journal of Mathematics: No, but authors with concerns may (and do) email the handling editor. In my opinion it would be good to have entries for conflicts and referee suggestions on the online submission form.

Transactions of the American Mathematical Society: This is extremely rare. I suppose authors could inform the editor.

Notices: Do you recommend that an author communicate with the appropriate editor before submitting his or her manuscript?

Annals of Mathematics: No.

Duke Mathematical Journal: No.

Pacific Journal of Mathematics: No.

Transactions of the American Mathematical Society:

Probably not. The journal should have a good FAQ page though.

Notices thanks the four editors:

Annals of Mathematics of Mathematics: Peter Sarnak is one of six members of the editorial board; there is no managing editor. There are also six associate editors.

Duke Mathematical Journal Mathematical Journal: Jonathan Wahl is managing editor. He serves with four main editors and with the cooperation of 17 associate editors.

Pacific Journal of Mathematics Don Blasius is managing editor. He serves with 10 editors.

Transactions of the American Mathematical Society of the AMS: Alejandro Adem is managing editor. He serves with a 20-person editorial board, five of whom are designated coordinating editors.

EDITOR'S NOTE. See also “How to Deal with a Mathematics Journal” by Scott Chapman, then editor of *The American Mathematical Monthly*, in the February 2016 *Notices* www.ams.org/publications/journals/notices/201602/rnoti-p182.pdf and the London Mathematical Society guide for authors www.lms.ac.uk/sites/lms.ac.uk/files/Publications/AuthorGuide.pdf.