Millennium Prize Description and Rules

Last Updated: June 28, 2018

1. The Clay Mathematics Institute ("CMI") has named seven (7) Millennium Prize Problems (each, a "Problem"). CMI selected these Problems, focusing on important classic questions that have resisted solution over the years. Official descriptions of the Problems are available at https://www.claymath.org/millennium-problems.
2. CMI has designated a $7 million prize fund for the solutions to these Problems, with $1 million allocated to each Problem (each, a "Prize"). Below are the Rules for qualifying for award of a Prize for solving any Problem.
3. General Provisions:
    a. CMI, and no other persons or body, has the sole authority to award and authorize payment of Prizes, and to modify or interpret these Rules in its sole discretion.
    b. CMI may, in its sole discretion, consult with, and receive advice from, the Scientific Advisory Board of CMI and others in connection with application and interpretation of these rules, evaluation of proposed solutions to the Problems that are considered by CMI, and award of Prizes, although CMI is not obligated to follow such advice.
    c. All decisions and actions by CMI with respect to the interpretation and application of these Rules. and decisions whether, when, to whom and under what conditions Prizes should be awarded, are final.
    d. All decision-making procedures concerning the Problems and Prizes are and shall remain private and confidential. This includes the deliberations or recommendations of any person or persons CMI has used to obtain advice on this question. No records of these deliberations or related correspondence may be made public without the prior approval of the BOD and the SAB unless fifty (50) years time have elapsed after the date of such deliberations or correspondence in question. Persons whose Proposed Solutions (as defined below) are evaluated by CMI shall not be entitled to, and shall not receive, an explanation regarding CMI's decision with respect to the Proposed Solution.
4. Criteria For Prizes: General

CMI may award a Prize in connection with a Proposed Solution (as defined below) to a Problem if and only if:
    a. the Proposed Solution has been published by a Qualifying Outlet, as defined below;
    b. at least two (2) years have elapsed since publication of the Proposed Solution in a Qualifying Outlet;
    c. the Proposed Solution has achieved general acceptance in the global mathematics community, as determined in the sole discretion of CMI; and
    d. the Proposed Solution has satisfactorily answered the questions raised by the Problem's official description, as determined in the sole discretion of CMI.
5. Proposed Solutions
    a. Only a complete mathematical solution to a Problem as it is defined in its official Problem description (a "Proposed Solution") will be eligible for consideration for a Prize. Completeness of the mathematical solution to a Problem shall be determined in the sole discretion of CMI.

b. In the case of the P versus NP Problem and the Navier-Stokes Problem, a resolution in either direction will be evaluated by the standard evaluation procedure set forth in Section 7.

c. In the case of the other Problems, if a counterexample is proposed, such counterexample shall be evaluated using the same evaluation procedure as if it were a Proposed Solution.

    i. If, in the opinion of CMI, the counterexample effectively resolves the Problem, then CMI may recommend the award of a Prize.

    ii. If, alternatively, the counterexample shows that the original Problem survives after reformulation or elimination of some special case, then CMI may recommend that a small prize, of an amount to be determined by CMI in its sole discretion, be awarded to the author. The money for this prize will not be taken from the Problem fund, but from other CMI funds.

d. A paper that does not address or refer to the specific mathematical questions set out in detail in the official Problem description will not be considered to be a Potential Solution of one of the Problems, even if it addresses closely related scientific questions.

e. CMI will not accept Proposed Solutions submitted directly to CMI and is under no obligation to provide explanation or justification.

6. Publication of a Proposed Solution to a Problem

a. A Proposed Solution must be published in a "Qualifying Outlet," which is either:

    i. a refereed mathematics publication of worldwide repute meeting the conditions in Section 6(e); or

    ii. a publication meeting a relaxed set of conditions approved by the BOD following a recommendation from the SAB under the procedure set out in Section 6(f).

b. CMI will not make recommendations to authors regarding which journal to submit a paper to, or how to submit a paper.

c. CMI does not maintain a list of publications that meet the requirements in Section 4(a), and will not certify that any particular publication meets its requirements.

d. CMI will not consider supplementary material submitted by the author of a Proposed Solution.

e. Without limiting any other provision in this Section, a publication lacking any of the following characteristics will be deemed not to be a Qualifying Outlet:

    i. an editorial board whose members are named and available for contact;

    ii. an editor or editorial board member whose professional knowledge of the global mathematics community would enable him or her to identify an appropriate referee to review a submitted paper;

    iii. a published refereeing process that, in the opinion of CMI, ensures that a submitted paper is reviewed and verified by appropriate experts in the field of the Problem; or

    iv. inclusion in the list of publications maintained by MathSciNet.

f. The ultimate decision as to whether a publication qualifies as a "Qualifying Outlet" shall reside in the sole and unfettered discretion of CMI. CMI may, in its discretion,

relax or remove one or more of the conditions listed in Section 6(e) above if it has received advice from experts in the field of the Problem, chosen by CMI,that a published solution is likely to be correct.

7. Evaluation of a Proposed Solution
    a. After publication in a Qualifying Outlet, a Proposed Solution must satisfy the following two (2) stages of evaluation in order to qualify for a Prize. The two (2) stages must be satisfied sequentially.
        i. First, a Proposed Solution must achieve general acceptance in the global mathematics community, as determined by CMI in its sole discretion.
            1. CMI will take reasonable steps to remain aware of Proposed Solutions considered by the global mathematics community.
                a. In this connection, it is noted that the Problems are hard mathematical problems of considerable interest to the global mathematics community, and a plausible potential solution to a Problem will be effectively unmissable to all but the most superficial monitoring.
            2. The Proposed Solution must survive rigorous examination by the global mathematics community for a minimum of two (2) years. Determination of what constitutes "rigorous examination" shall lie within the sole discretion of CMI.
            3. No CMI-affiliated entity will accept invitations, requests or demands to recognize the status of a Proposed Solution.
            4. In determining whether a Proposed Solution has achieved general acceptance in the global mathematics community, CMI may consider:
                a. the number and quality of journal articles, books, and other publications by independent researchers discussing the Proposed Solution;
                b. the number and quality of international conferences and other professional mathematics gatherings discussing the Proposed Solution;
                c. the number and quality of awards recognizing the Proposed Solution; and
                d. any other factors CMI considers indicative of consensus in the global mathematics community.
        ii. Second, a Proposed Solution must satisfy examination by CMI.
            1. If CMI determines that a Proposed Solution has achieved general acceptance in the global mathematics community, and at least two (2) years have elapsed since the qualifying publication of the Proposed Solution, CMI will decide, in its sole discretion, whether a Proposed Solution merits detailed consideration.
            2. If CMI decides that detailed consideration is not merited, then CMI may determine that no Prize be awarded for the Proposed Solution and no further action will be taken.

3. If CMI determines that detailed consideration is merited, then CMI will convene a special advisory committee to examine the Proposed Solution. The special advisory committee will consist of no fewer than three (3) members, at least two of which are experts in the area of the Problem, to be selected by CMI in its sole discretion.
4. The special advisory committee will report within a reasonable time to CMI. Based on this report and, if appropriate, further investigation, CMI will determine whether a Prize should be awarded.

8. Award of a Prize
    a. CMI may, in its discretion, determine that:
        i.   no Prize be awarded;
        ii. a Prize be awarded to one person;
        iii. a Prize be awarded to and divided among multiple solvers of a Problem or their heirs; or
        iv. a counterexample resulting in a reformulation of the Problem merits a small, non-Prize award to the author, as described in Section 5(c)(ii).
    b. CMI will pay special attention to the question of whether a Prize solution depends crucially on insights published prior to the solution under consideration. CMI may, in its discretion, recognize such prior work in the Prize citation, and/or recommend the inclusion of the author of prior work in the award.
    c. If CMI cannot come to a decision about the correctness of a solution to a Problem, its attribution, or the appropriateness of an award, CMI may conclude that no Prize be awarded for a particular Problem. If new information comes to light, CMI may, in its discretion, reconsider a negative decision to award a Prize for a Proposed Solution, but only after an additional two (2) year waiting period following the time that the new information comes to light.
    d. Any person who is not a disqualified person (as that term is defined in section 4946 of the Internal Revenue Code) in connection with CMI, or a then-serving member of CMI's Scientific Advisory Board or Board of Directors, may be eligible to receive a Prize.
    e. Prizes shall be delivered to the recipient by no later than ninety (90) days after the recipient is notified that such recipient has won a Prize.

This statement of the Rules for the Millennium Prize Problems has been approved by the Board of Directors of the Clay Mathematics Institute. It supersedes all earlier statements of the Rules. These Rules shall for all purposes be construed in accordance with and governed by the laws of the State of Delaware without reference to its conflict or choice of laws principles. Any person applying for or seeking award of a Prize irrevocably and unconditionally submits, for itself and its property, to the nonexclusive jurisdiction of the Superior Court of the State of New Hampshire sitting in Hillsborough County and of the United States District Court for the District of New Hampshire, and any appellate court from any thereof, in any action or proceeding arising out of or relating to these Rules.

Date