

Notice and Terms of Reward for Collatz Conjecture Solution

This Notice and Terms of Reward for Collatz Conjecture Solution (hereinafter referred to as “Terms” and available at <https://mathprize.net/files/collatz-conjecture-rule-ja-20210707.pdf> in Japanese and <https://mathprize.net/files/collatz-conjecture-rule-en-20210707.pdf> in English) is issued in connection to the monetary Reward being offered (hereinafter referred to as “Prize”) by Bakuage Co., Ltd./ 株式会社音圧爆上げくん a company registered in Japan (hereinafter referred to as “Host”) to a person who has contributed to a research paper which stipulates a Solution to the mathematical problems related to the Collatz Conjecture (hereinafter referred to as “Problem”, the specifications and definition are available at <https://mathprize.net/ja/posts/collatz-conjecture> in Japanese and <https://mathprize.net/posts/collatz-conjecture> in English).

Article 1 (Definition)

In these Terms, the following terms shall have the meanings set forth below.

- 1.1 “Solving Method” means either, the verification of the Solution for the Problem by presenting a reasonable mathematical proof that the Collatz Conjecture is accurate; or the verification of the Solution for the Problem by presenting a reasonable mathematical proof that the Collatz Conjecture is false.
- 1.2 “Solution” means a complete mathematical solution of the Solving Method that meets all requirements outlined in the following items. The Host may, at its own discretion, make the final decision on whether the Solving Method meets all requirements or not.
 - (i) Two (2) or more years have elapsed since such Solving Method has been published in the Appropriate Publication; and
 - (ii) After the period prescribed in (i) above has elapsed, such Solving Method has been accepted by the global Mathematical Society. In determining whether such Solving Method has been accepted by the global Mathematical Society or not, the Host may consider the following items:
 - (a) The number and quality of articles, books, and other publications discussed and referred to such Solving Method;
 - (b) The number and quality of international conferences and other gatherings of mathematicians discussed such Solving Method;
 - (c) The number and quality of award been given to such Solving Method.
 - (iii) The Solving Method has met the requirements set forth below:
 - (a) Additional detailed reasoning of the Solution Method that meets requirements outlined in Article 1.2 (i) and (ii) is beneficial;
 - (b) Based on the conclusion made based on the detailed consideration according to the above paragraph, the Host determines that the Solution Method is mathematically correct.
- 1.3 “Appropriate Publication” means journal listed on MathSciNet (for the avoidance of doubt, MathSciNet is a publication of the American Mathematical Society which maintains a database of reviews, abstracts, and bibliographic information for mathematical sciences literature); or journals that meet all the requirement outlined in the following. The Host may, at its own discretion, make the final decision on whether or not the Appropriate Publication meets the following requirements.
 - (iv) Journals where the member of the editorial committee can easily be identified and contact information is published;
 - (v) Journals where the editor and the editorial committee have considerable expertise in the study of mathematics for them to appropriately review any research papers that would be nominated for the Prize; and
 - (vi) Journals that have been generally accepted by the global Mathematical Society.
- 1.4 “Nominated Research Papers” means research papers specifying the Solution Method and is nominated for the Prize provided that such research papers are categorized as Appropriate Publication (excluding those research papers that are listed as an advert and/or on nonacademic research publications). For the avoidance of doubt, any research paper not specifying the Solution Method or not directly referring to the Problem shall not be deemed to be considered as a Nominated Research Papers even if such

research paper focuses on the problems relating to the Collatz Conjecture.

- 1.5 “Winning Research Paper” means the research paper to which the Host has determined that is the first research paper specifying the Solution.
- 1.6 “Participant” means a person or persons who contributed to the Nominated Research Papers.
- 1.7 “Prize Winner” means the person or persons that contributed to the Winning Research Paper and to whom the Host determines to award the Prize.
- 1.8 “Reward” means money of 120,000,000 (one hundred twenty million) JPY being offered by the Host to the Prize Winner, or the amount which is equivalent to a part of the Reward if the Host decided to offer a part of the Reward to the Prize Winner according to Article 5.2. Further, the Host may, at its own discretion, convert the Reward to a foreign currency according to the rate of exchange in a place specified by the Host.

Article 2 (Consideration of the Nominated Research Papers)

- 2.1 The Host may, at its own discretion, determine whether or not to consider any Nominated Research Papers for the Prize. The Host shall have no obligation to consider any of the Nominated Research Papers and may refuse to consider any Nominated Research Paper even if such research paper falls under the category of the Nominated Research Papers.
- 2.2 The Host does not accept direct submission of any Nominated Research Papers.

Article 3 (Determination of the Winning Research Paper)

- 3.1 The Host may determine the Winning Research Paper based on its consideration of the Nominated Research Papers as prescribed in Article 2.1.
- 3.2 The Host shall have no obligation to take any measure in awarding the Prize in a case where the Host determines that the Nominated Research Papers does not meet one of the requirements for the Solution prescribed in Article 1.2 or it would be inappropriate to consider it as the Winning Research Paper for the reason that it is not the first research paper specifying the Solution.

Article 4 (Determination of the Prize Winner)

- 4.1 If the Host determines the Winning Research Paper according to Article 3.1, it may award the Prize to the Prize Winner, however, if the Host finds it difficult to validate or identified the Prize Winner then the Host may determine that that are no persons to be given the Reward and to be considered as the Prize Winner.
- 4.2 If the Host can identify or verify the author or the authors of the Research Paper (hereinafter referred to as "Winner Author"), the Host may, at its own discretion, make any of the following decision:
 - (i) To decide that there is no Winner Author to be considered as the Prize Winner;
 - (ii) To decide the Prize Winner by choosing one specific person of the Winer Author; or
 - (iii) To decide the Prize Winner by choosing more than one person of the Winner Author.
- 4.3 If the Host determines that the content of the Winning Research Paper was discovered or written by a person other than the Winner Author, the Host may, at its own discretion, make any of the following decision regarding the person who has been determined as the discoverer and the original writer of the contents of the Winning Research Paper (hereinafter referred to as “Original Winner”):
 - (i) To decide that there is no Original Winner to be considered as the Prize Winner;
 - (ii) To decide the Prize Winner by choosing one specific person of the Original Winner; or
 - (iii) To decide the Prize Winner by choosing more than one person of the Original Winner.
- 4.4 In the event that the Host discovered that there is an earlier research paper that has been written prior to the Winning Research Paper and has made a substantial impact on the content of the Winning Research Paper (hereinafter referred to as "Earlier Research Paper"), the Host may, at its own discretion, make any of the following decision regarding the author or the authors of the Earlier Research Paper (hereinafter referred to as “Earlier Author”).
 - (i) To decide that there is no Earlier Author to be considered as the Prize Winner;
 - (ii) To decide the Prize Winner by choosing one specific person of the Earlier Author.; or
 - (iii) To decide the Prize Winner by choosing more than one person of the Earlier Author.

Article 5 (Determination of Offering the Reward)

- 5.1 The Host may, at its own discretion, determine to make the decision regarding the awarding of the Reward to the Prize Winner according to Article 4.
- 5.2 Notwithstanding the provision of the preceding paragraph, the Host may, at its own discretion, decide to offer a portion of the Reward to the Prize Winner determined according to Article 4, and if the Host makes such decision, the full amount of the Reward shall not be offered to the Prize Winner.
- 5.3 In the event that there is a multiple Prize Winner, and the Host has determined such Prize Winner according to Article 4, the Host may, at its own discretion, determine the proportion of the Reward to be offered to each Prize Winner by taking into account the contribution made by the respective Prize Winner.

Article 6 (Payment of the Reward)

- 6.1 The payment of the Reward shall be made on the condition that (i) a notice is given to the Prize Winner (if there are multiple Prize Winner, the notice is given to each Prize Winner) to whom the Host has decided to offer the Reward, (ii) the Prize Winner accepts the offering of the Reward, and (iii) the Host makes a payment of the Reward. The Host shall make a payment of Reward (if there are multiple Prize Winner, the amount of the Reward shall be allocated based on the proportion determined according to Article 5.3) by a bank transfer to the bank account designated by the Prize Winner within ninety (90) days from the date that the Prize Winner informed the designated bank account. Notwithstanding the earlier part of this provision, the Host may, at its own discretion, change the method of payment of the Reward detailed under this provision.
- 6.2 In the event that the Prize Winner is deceased, and multiple heirs exist, the Host may offer the whole or a part of the Reward being offered to such Prize Winner to the heirs determined by the Host.

Article 7 (Withdrawal of Decision)

- 7.1 The Host may withdraw the whole or a part of a decision made pursuant to these Terms at any time, even when the decision has been announced (including, but not limited to, the decision to offer the Reward to the Prize Winner), until the offering of the Reward completed by making the payment of reward according to Article 6.
- 7.2 In the event that the Host decided to offer the Reward to the Prize Winner, the Host shall have no obligation to offer the Reward to the person who falls under any of the following items.
- (i) A person who has written a research paper specifying the Solution prior to the Prize Winner;
 - (ii) A person who has written a research paper specifying the Solution at the same time as the Prize Winner; or
 - (iii) A person who has written a research paper specifying the Solution after the Prize Winner.

Article 8 (Non-Disclosure Method of Consideration or Decision-Making Process)

- 8.1 The Host may not disclose, in whole or part, the details of the method of consideration and the decision detailed in these Terms and all or part of the process and shall have no obligation to give notice or to announce thereof to the Participant, the Prize Winner, and other persons.
- 8.2 The Host shall not accept any inquiry regarding the details of the consideration and the decision prescribed in these Terms and its process whatsoever.
- 8.3 The Host shall have no obligation to provide an explanation of these Terms to any corporates and individuals including the Participant and the Prize Winner.

Article 9 (Announcement of the Result)

The Host may announce the result regarding the offering of the Reward offered under these Terms. In such a case, the Host may also announce the name of the Prize Winner, the Prize Winner's organization, the title and the content of the Winning Research Paper, and other details as determined by the Host.

Article 10 (Outsourcing)

The Host may, at its own discretion, entrust a third party to conduct consideration in determining the awarding of the Prize, and any other matter prescribed under these Terms in whole or a part or

may request third parties for their cooperation.

Article 11 (Elimination of the Anti-Social Forces)

11.1 The Host may refuse to offer the Reward to the Prize Winner if such Prize Winner falls under an organized crime group, a member of an organized group, a person for whom for five (5) years have not yet passed since leaving an organized crime group, quasi member of an organized group, a related company of an organized group, a corporate racketeer, a group engaging in criminal activities under the pretext of conducting social campaigns, a crime specialized in intellectual crimes, or a person equivalent thereof (hereinafter collectively referred to as “Anti-Social Forces”) or falls to any of the followings:

- (i) any relationship whereby the Prize Winner is deemed to be using the Anti-Social Forces wrongfully to gain illegal profit itself or a third party or cause any damage to any third party;
- (ii) any relationship whereby the Prize Winner is deemed to be involved with the Anti-Social Forces by providing funds or favors to it; Or
- (iii) any relationship whereby the Prize Winner is deemed to be involved in a relationship deemed socially reprehensible with any Anti-Social Forces.

11.2 The Host may refuse to offer the Reward to the Prize Winner if such Prize Winner engages in any one of the following acts:

- (i) violent demands against the Host and its officers;
- (ii) unreasonable demands exceeding legal responsibilities against the Host and its officers;
- (iii) act of using intimidating words or violation against the Host and its officers;
- (iv) spreading of rumors, use of fraudulent means or use of force to harm the reputation of the Host or the Host’s business; or
- (v) any other acts equivalent to the preceding each item.

Article 12 (No Succession of Rights and Obligations)

Any status, right, and obligation regarding these Terms shall belong to the Host and shall not be transferred or succeed (including specific and universal succession) in the event that inheritance, merger, company split, the transfer of business, and other reasons arise in connection with the Host.

Article 13 (Period Validity)

13.1 The period of validity of these Terms shall be from 7/7/2021 to 7/6/2031.

13.2 Notwithstanding the provision in the preceding paragraph, in the following cases, the validity period of these Terms shall be expired on the date outlined in the following item.

- (i) In a case where the Host paid the Reward to the Prize Winner:
On the day when such payment was made.
- (ii) In a case where the Host withdrew these Terms according to the following article:
On the day when such withdrawal was made (provide, however, that this shall not apply to a case where the Host has fixed the end date of these Terms after the date when such withdrawal was made. In such case, it shall be the expiration date of these Terms)
- (iii) In a case where the Host is dissolved and becomes subject to an order commencing bankruptcy proceedings, or underwent a merger or carried out company split:
On the day when the Host is dissolved or becomes subject to an order commencing bankruptcy proceedings, or the day when the merger or company split becomes effective.

Article 14 (Withdrawal and Amendment of these Terms)

14.1 The Host may, at its own discretion, withdraw or amend the whole or a part of these Terms at any time.

14.2 If the Host withdraws or amends the whole or a part of these Terms according to the preceding paragraph, such withdrawal or amendment shall be publicized on <https://mathprize.net/ja/posts/collatz-conjecture> in Japanese, and <https://mathprize.net/posts/collatz-conjecture> in English (in the case where the Host intends to change the URL, the notice of the change shall initially be posted in the current URL, and upon such notification, the changed URL shall become effective thereafter.)

Article 15 (No Transfer of Right and Obligation)

The Prize Winner shall not transfer to any third party or pledged as security of, or cause any third party to undertake, any status, right, and obligation on these Terms to any third party without the prior written consent of the Host.

Article 16 (Language)

These Terms are made in the Japanese language. Any translation made in another language hereof is made for reference purposes and if there is any conflict or inconsistency between the Japanese version and the translation version, the Japanese version shall prevail.

Article 1 (Governing Law and Jurisdiction)

17.1 These Terms shall be governed and construed in accordance with the laws of Japan.

17.2 Any dispute concerning these Terms shall be subject to the exclusive jurisdiction of the Tokyo District Court in the first instance. The same shall apply to a case where conciliation is carried out.

Established on 7/7/2021