

Journal of Mathematics Education

# AlphaMath

Department of Mathematics Education  
Faculty of Teacher Training and Education  
University of Muhammadiyah Purwokerto, Indonesia

Jl. KH. Ahmad Dahlan, Dusun III, Dukuwaluh, PO BOX 202, Purwokerto  
email: [jurnalalpamath@ump.ac.id](mailto:jurnalalpamath@ump.ac.id), [alphamathjurnal@gmail.com](mailto:alphamathjurnal@gmail.com)

**AlphaMath:**  
***Journal of Mathematics Education***

AlphaMath: Journal of Mathematics Education is a mathematics education journal that presents articles from research results appropriate for the latest developments. AlphaMath is a peer-reviewed and open-access journal. AlphaMath is a journal that published by Department Mathematics Education, Faculty of Teacher Training and Education, Universitas Muhammadiyah Purwokerto. AlphaMath invites lecturers, observers, mathematics education researchers, and mathematics teachers from various schools around the world to exchange ideas and advance science in the field of mathematics education.

**EDITORIAL TEAM**

**Editor in Chief** : Anggun Badu Kusuma, M.Pd. (Universitas Muhammadiyah Purwokerto, Indonesia)

**Editorial Boards :**

Prof. Dr. Yus Mochamad Cholily, M.Si.  
(Universitas Muhammadiyah Malang, Indonesia)  
Prof. Drs. Ahmad, Ph.D.  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Dr. Siti Mistima Maat  
(Universiti Kebangsaan Malaysia, Malaysia)  
Dr. Ali Mahmudi, M.Pd.  
(Universitas Negeri Yogyakarta, Indonesia)  
Dr. Isnarto, M.Si.  
(Universitas Negeri Semarang, Indonesia)  
Dr. Puguh Wahyu Prasetyo, M.Sc.  
(Universitas Ahmad Dahlan)  
Dr. Dafid Slamet Setiana, M.Pd.  
(Universitas Sarjanawiyata Tamansiswa, Indonesia)

**Section Editors :**

Malim Muhammad, M.Sc.  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Fitrianto Eko Subekti, M.Pd.  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Gunawan, M.Sc.  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Reni Untarti, M.Pd.  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Dr. Winda Ramadanti, M.Pd.  
(Universitas Muhammadiyah Bengkulu, Indonesia)

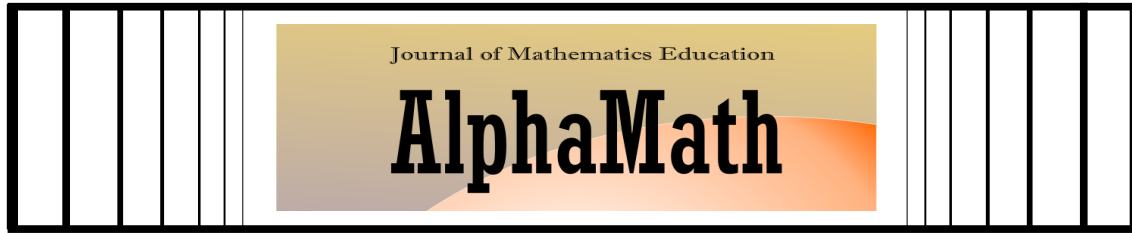
**Reviewer :**

Prof. Turmudi, M.Ed., M.Sc., Ph.D.  
(Universitas Pendidikan Indonesia, Indonesia)  
Prof. Dr. Rully Charitas Indra Prahmana, M.Pd.  
(Universitas Ahmad Dahlan, Indonesia)  
Assoc. Prof. Dr. Mazlini Adnan  
(Universiti Pendidikan Sultan Idris (UPSI), Malaysia)  
Adjunct Prof. Bill Atweh. BSc. BA. MSc. PhD.  
(Philippine Normal University, Philippines)  
Dr. Nurihan binti Nasir  
(Universiti Pendidikan Sultan Idris, Malaysia)  
Dr. Muhammad Irfan, M.Pd.  
(Universitas Sarjanawiyata Tamansiswa, Indonesia)  
Dr. Wahyu Hidayat, M.Pd.  
(IKIP Siliwangi, Indonesia)  
Dr. Farida Nurhasanah, M.Pd.  
(Universitas Sebelas Maret, Indonesia)  
Dr. Elfis Suanto, M.Si.  
(Universitas Riau, Indonesia)  
Eka Setyaningsih  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Fauzi Mulyatna  
(Universitas Indraprasta PGRI Jakarta, Indonesia)  
Ratih Ayu Apsari  
(Universitas Mataram, Indonesia)  
Rizki Nurhana Friantini  
(STKIP Pamane Talino, Indonesia)  
Julia Noviani  
(IAIN Takengon, Indonesia)

Prof. Dr. rer. nat. Indah Emilia Wijayanti, M.Si.  
(Universitas Gajah Mada, Indonesia)  
Assoc. Prof. Dr. Zulkifley bin Mohamed  
(Universiti Pendidikan Sultan Idris, Malaysia)  
Assoc. Prof. Dr. Ariyadi Wijaya  
(Universitas Negeri Yogyakarta, Indonesia)  
Assoc. Prof. Dr. Akhmad Jazuli, M.Si.  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Dr. Sri Adi Widodo, M.Pd.  
(Universitas Sarjanawiyata Tamansiswa, Indonesia)  
Dr. Riawan Yudi Purwoko  
(Universitas Muhammadiyah Purworejo, Indonesia)  
Dr. Nurhanurawati Nurhanurawati  
(Universitas Lampung, Indonesia)  
Dr. Anton Jaelani  
(Universitas Muhammadiyah Purwokerto, Indonesia)  
Dr. Neneng Aminah, M.Pd.  
(Universitas Swadaya Gunung Jati, Indonesia)  
Naufal Ishartono  
(Universitas Muhammadiyah Surakarta, Indonesia)  
Shahibul Ahyan  
(Universitas Hamzanwadi, Indonesia)  
Muhammad Fajaruddin Atsnan  
(Universitas Islam Negeri Antasari, Indonesia)  
Ni Luh Sakinah Nuraini  
(Universitas Negeri Malang, Indonesia)

**Email:** jurnalalphamath@ump.ac.id, alphamathjurnal@gmail.com  
**Web:** <http://jurnal.nasional.ump.ac.id/index.php/alphamath>  
**CP:** 0857 2508 1435, 0813 2733 4410

**Address:**  
Jl. KH. Ahmad Dahlan, Dusun III, Dukuhwaluh, PO BOX 202,  
Purwokerto, 53182, Universitas Muhammadiyah Purwokerto  
(UMP), Central Java, Indonesia.



## Table of Content

<i>Foreword</i>	[v]
<i>Development of Interactive Student's Worksheets to Improve Mathematical HOTS of Tenth Grade Students in Trigonometry Topic</i> Bertha Oktavika Sembiring and E. Elvis Napitupulu	[99-110]
<i>Confirmatory Factor Analysis to Measure Self-Efficacy and Outcome Expectation in Mathematics Learning</i> Cut Yuni Nurul Hajjina and Heri Retnawati	[111-120]
<i>Numerical Literacy Skill of Vocational High School Students in Solving HOTS Problems</i> Nurokhmi Wahyu Setiani, Mohammad Asikin, and Nuriana Rachmani Dewi	[121-130]
<i>The Effectiveness of Mathematics Learning Using Online Media During the Covid-19 Pandemic</i> Nur'aini Muhasanah, Afifah Hayati, and Ambar Winarni	[131-142]
<i>Analysis of Student Errors in Solving HOTS-Type Sequence and Series Problems Based on Newman Error Analysis</i> Risky Illaina Septia Putri and Ratri Candra Hastari	[143-152]
<i>Interest in Learning Mathematics for Students of SMP Negeri 2 Tuntang Semarang Regency towards Learning During a Pandemic</i> Lu'luu Habibah As Sa'adah and Enika Wulandari	[153-163]
<i>Logic and Sets Textbook Containing Ethnomathematics of Sasak Culture: Validation and Design</i> Sri Subarinah, Junaidi, Tabita Wahyu Triutami, Nourma Pramestie Wulandari, and Nilza Humaira Salsabila	[164-174]
<i>Relationship of Mathematical Disposition with Student Problem-Solving Construction Using Realistic Mathematics Education (RME) Model</i> Khoirin Nida Fitria, Zaenuri Mastur, and Amin Suyitno	[175-184]
<i>The Effectiveness of Using Problem-Based Learning (PBL) in Mathematics Problem-Solving Ability for Junior High School Students</i> Febrinna Marchy, Atma Murni, Kartini, and Ilham Muhammad	[185-198]
<i>Ethnomathematics of Baitu Usyaqil Quran (BUQ) Mosque and Pesantren Darussalam, Banyumas Regency</i> Kusno, Eka Setyaningsih, and Anggun Badu Kusuma	[199-208]

*Development of Mathematics Learning Module Based on Realistic Mathematics Education (RME) Approach in SPLDV Materials* [209-222]

*Education (RME) Approach in SPLDV Materials*

Lisa Levia Miranda, Siti Suprihatiningsih, Rizki Nurhana Friantini, Konstansia Hermiati, and Pradipta Annurwanda<sup>5</sup>

## FOREWORD

Assalamu'alaikum Wr. Wb.

Praise the presence of Allah SWT for all the overflow of His Rahmat so that we can publish the journal AlphaMath volume eight number two. The creation of the journal AlphaMath aims to develop the writing culture of educators for both teachers and lecturers. In addition, the journal AlphaMath also seeks to accommodate all aspirations, ideas, and potentials related to the world of education. This journal's publication is in line with the vision and mission of the Mathematics Education Department Universitas Muhammadiyah Purwokerto. The concept and mission are superior in developing the education profession and mathematical competence.

The scope of the material in this journal is related to the world of mathematics education. This is to obtain innovations in teaching and ideas from educators to disseminate. Hopefully, this journal will always be evaluated to improve its quality. In this issue, the journal AlphaMath features eleven articles related to model learning, mathematical ability, and ethnomathematics. The authors of the journal come from various educational institutions.

Hopefully, this AlphaMath journal can provide benefits for readers and educational actors.

Wassalamu'alaikum Wr. Wb.