The Association for Mathematics Education of South Africa

23rd Annual National Congress
3 – 7 July 2017

South Campus, Port Elizabeth, Eastern Cape

FIRST ANNOUNCEMENT AND CALL FOR PAPERS

You are invited to the 23nd Annual National Congress of the Association for Mathematics Education of South Africa (AMESA) and to submit contributions around the theme:

Restoring the dignity of mathematics learners through quality teaching and learning

VENUE

Nelson Mandela Metropolitan University (South Campus)
University Way, Port Elizabeth
South Africa

CONGRESS THEME

Restoring the dignity of mathematics learners through quality teaching and learning

Mathematics is an important school subject in South Africa and other countries. Success in school mathematics is likely to result in school learners choosing careers in the sciences, health sciences, engineering, commerce or other key professions.

For learners to attain success in mathematics, it is imperative that our mathematics teachers are qualified in the subject and are able to deliver quality lessons to learners. These quality lessons will make learning more meaningful, relevant and appropriate. In so doing, we hope to restore the dignity of our mathematics learners across all grades, by making mathematics more accessible, and in this way improve learner performance.

For far too long in South Africa, Mathematics (as a school subject) has been a filter rather than an enabler. It filters learners out of the scarce careers mentioned in the first paragraph. The introduction of Mathematical Literacy in the FET phase has, unwittingly, exacerbated this problem. Mathematical Literacy was introduced to give learners, who would not normally take up Mathematics in Grade 10, the opportunity of leaving Grade 12 with some basic or elementary mathematical knowledge to enable them to function effectively as a citizen in the 21st century. Unfortunately, this noble ideal of Mathematical Literacy has been overtaken by the focus on schools to improve their overall pass rates, rather than having quality passes.

The 2017 Congress theme calls on all AMESA members and mathematics teachers to refocus efforts in classrooms with quality teaching and learning, thereby, restoring the dignity of our learners.

PROGRAMME

Congress participants include an exciting combination of mathematics teachers, materials and technology developers, national and international researchers and government advisers, presenting on policy directions and research findings, and sharing teaching ideas and materials.

The programme will include:

1. **Pre-congress workshops** (Sunday 2 July, 14:00 –17:00)
2. **Plenary addresses** by invited speakers, including overseas speakers.
3. **Panel discussions** on various issues in Mathematics Education.
4. **Parallel sessions** presented by participants, in the following areas:

Foundation Phase, Intermediate Phase, Senior Phase, FET Phase, and Teacher education.

The following formats of presentation will be used:

- **Long papers**(40 minute presentation plus 20 minute discussion)
- **Short papers**(20 minute presentation plus 10 minute discussion)
- **"How I teach"** papers (20 minute presentation plus 10 minute discussion)
- **Posters** (Exhibited on a 1,2 m x 1,8 m board, for the duration of the conference. Authors should be available at certain hours for discussion.)
- **Workshops**(1 or 2 hours)

5. **Activity Centre:** Hands-on practical mathematics activities for participants.
6. **Maths Market:** Promotion of their products by commercial vendors.
7. **AMESA Curriculum Phase Committees discussions**
8. **AMESA Special Interest Group meetings**
9. **AMESA Annual General Meeting**

OTHER FEATURES OF CONGRESS

- Social events
- Excursions
- Daily congress competitions
- Transport
- Internet facilities

Note: *The Final Announcement and Registration Form will be distributed in March/April 2017 and will contain full details about the programme, costs, transport, etc.*

CONTACT DETAILS

Please send all communication about administrative matters to:

The AMESA Congress Secretary
Nombulelo Mandindi
PO Box 54
2050 WITS
Tel: 011 484 8917
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Fax: 086 406 3591
Email: congress2017@amesa.org.za

Congress Director
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PO Box 77000
Port Elizabeth, 6001
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Cell: 083 651 6992
Fax : 086 771 5502
Email: tulsi@amesa.org.za

Please send all communication about the academic programme to:

The Academic Coordinator
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c/o RUMEP
PO Box 94, Grahamstown, 6140
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Email: tom@amesa.org.za

Congress Deputy Director
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Phakama Public School
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Kwazakhele, PE, 6205
Cell: 073 158 3609
Fax: 041 467 0020
Email: easterncape@amesa.org.za

Congress website

See the congress website for updated relevant information:
http://www.amesa.org.za/AMESA2017/

THE LOCAL ORGANISING COMMITTEE (LOC)

The LOC is made up of members who have been actively involved in the branches and provincial structures of AMESA. They come from a variety of backgrounds and include teachers, subject advisors, administrators and mathematics educators. They will be allocated various portfolios and duties for Congress 2017. These details will be included in the final announcement.

MEMBERS OF THE LOC

Tulsi Morar; Mzwakhe Sokutho; Tom Penlington; Cecil Heradien; Dudley Bester, Brenly Bruiners; Zukiswa Jonas; Zanele Mofu, Sue Richards; Zukiswa Dyantyi; Bukelwa Mfikili; Nosicelo Solwandle; Mncedisi Sokutu; Lulama Yoyo; Allistair Chapman; Martin Dyani.

THE NATIONAL ORGANISATION COMMITTEE (NOC)

The NOC is an AMESA sub-committee involved in national congress tasks and supports the LOC. Its members are appointed on the basis of their proven knowledge, functionality, commitment and delivery on national congresses. A representative for the following year's national congress should also serve on the NOC.

MEMBERS OF THE NOC

Vasuthavan Govender (chair); Busisiwe Goba (vice-chair); Rajen Govender (finances); Nombulelo Mandindi and Gary Powell (congress secretariat); Annari Milne (AMESA Free State).

THE EASTERN CAPE AND PORT ELIZABETH

The **Eastern Cape** is a province of South Africa. Its capital is Bhisho, and its two largest cities are Port Elizabeth and East London. The Eastern Cape Province was formed in 1994 out of the Xhosa homelands of Transkei and Ciskei, together with the eastern portion of the Cape Province. The central and eastern part of the province is the traditional home of the Xhosa people. This region is the birthplace of many prominent South African politicians, such as Nelson Mandela; Oliver Tambo; Walter Sisulu, Govan Mbeki; Raymond Mhlaba; Robert Mangaliso Sobukwe; Chris Hani; Thabo Mbeki; Steve Biko; Winnie Mandela; and Adelaide Tambo. The Eastern Cape was the landing place and home of the 1820 settlers.

Port Elizabeth, where the 2017 Congress is taking place, is part of the Nelson Mandela Bay municipality, along with nearby towns Despatch and Uitenhage. Port Elizabeth is serviced by air, road and rail transport.

- Air transport: Port Elizabeth **International Airport** provides scheduled flights to, and from, Johannesburg, Cape Town and Durban.
- Road transport: National routes (N2, N10). These routes connect Port Elizabeth with various towns and cities in South Africa.

Port Elizabeth is a major city South Africa, housing some 1,1 million inhabitants. It was founded in 1820. Port Elizabeth is a major tourist destination. It has popular “blue-flag status” beaches. Major historical attractions are linked to the Donkin Heritage trail. There is also the Route 67 Walking Trail; the Nelson Mandela Metropolitan Art museum; the Red Location and South End Museums and numerous game parks. There is also the museum and oceanography room at Bayworld in Humewood, and the *Boardwalk* waterfront complex. Port Elizabeth is also a destination for whale watching.

Nelson Mandela Metropolitan University

Nelson Mandela Metropolitan University (**NMMU**) is a South African university with its main administration in Port Elizabeth. It was founded through a merger of three institutions in January 2005, but its history dates back to 1882, with the foundation of the Port Elizabeth Art School. The University draws international students from all over the world. There are over 3 000 international students, including students from the United States, France, China, Germany, Belgium, Denmark, Finland, Netherlands, Norway, Sweden, United Kingdom and many African countries.

NMMU is a comprehensive university offering professional and vocational training. The University has six campuses – five in Port Elizabeth and one in George. The main campus of the university is South Campus, host of the 2017 AMESA Congress. Students at NMMU can study towards a diploma, or a degree up to doctoral level qualifications. A number of courses include workplace experience as part of the curriculum at NMMU. The university's medium of instruction is English.

CALL FOR PAPERS

You are invited to propose one or more contributions to the academic programme. Please note, that in order to ensure a high standard of presentations and broad based participation:

- we will accept no more than two inputs per presenter,
- we will not accept any presentation for the programme unless a full transcript or workshop outline has been submitted for reviewing,
- we will adhere to the due dates for submission as this ensures time for useful and relevant reviews of submissions.

To help you in planning and writing your proposal, we include, overleaf, technical guidelines for preparing a paper. An electronic styles template is available on the congress website. ***The Presentation Proposal Form*** (page 12) must be submitted with your proposal to the Academic Coordinator by **24 February 2017.**

CALL FOR REVIEWERS

In order to have a sufficient number of reviewers for submitted papers, we invite AMESA members to volunteer to help with reviewing papers. This review process should take place during March and April 2017.You can serve as reviewer if you are a current AMESA member and have presented a reviewed paper (a long or short paper) at previous AMESA congresses, or have published in *Pythagoras*. If you qualify and are willing, please fill in the ***Reviewer Form*** (page 14) and send it to the Academic Coordinator by **17 February 2017**.

MATHS MARKET

Publishers, entrepreneurs and NGOs are invited to present and promote their commercial products in a special session in the programme called a *Maths Market* presentation. Research about such products may be presented as an academic paper which will be reviewed, but commercial products would not be directly promoted in academic sessions. *Maths Market* presentations are not reviewed and not published in the Congress Proceedings. Please contact the Secretariat for more details.

IMPORTANT DATES

Reviewer Information	17 February 2017
Submission of full presentation proposal manuscripts	24 February 2017
Notification of proposal review results	20 April 2017
Application for financial support	30 March 2017
Early registration *at a* ***reduced*** *fee*	24 April 2017
Normal registration *at* ***normal*** *fee*	25 April to 26 May 2017
Late registration *at an* ***increased*** *fee*	after 26 May 2017
Cancellation of any costs	31 May 2017
Equipment requests for presenters	1 June 2017
Registration opens	2 July at 14:00
Residences open	2 July at 14:00
Opening ceremony	3 July at 10:30
Closing ceremony	7 July, 12:00

Guidelines for submission of Long Papers

Length: 8–12 pages: Each Long Paper will be scheduled for a total time of 60 minutes: 40 minutes for oral presentation and 20 minutes for discussion. The following types of papers are suitable for presentation as a long paper:

1. Research report

This should include the following:

- A statement about the focus of the paper or the research questions, and a motivation for the significance of the research;
- An indication of the theoretical framework of the study reported;
- A discussion of the related literature;
- An indication of and justification for the methodology used;
- Some sample data and findings and a statement of how these help to answer the research questions;
- What your findings mean for mathematics teaching and learning or further research;
- List of references.

2. The presentation of Mathematics/Mathematical Literacy content

These could include content in Mathematics/Mathematical Literacy, relevant to the school curriculum, such as:

- An innovative way of dealing with a section of Mathematics/Mathematical literacy;
- Alternative proofs for theorems;
- Interesting mathematics that teachers are conversant with; Mathematics/Mathematical
- Literacy that is new in the proposed curriculum;
- List of references.

3. Theoretical, methodological or philosophical essays

These should include the following:

- A statement about the focus of the paper and a motivation for its significance;
- An indication of the theoretical, methodological or philosophical framework within which the focus or theme of the paper is developed;
- Reference to related literature;
- A clearly articulated statement of the author's position on the focus or theme;
- What your results mean for mathematics teaching, learning or research;
- List of references.

Reviewing: Two reviewers, with experience in the area, will review your paper. Specifically, reviewers will be asked to comment on the following: mathematical content, theoretical framework and related literature, methodology (if appropriate), statement and discussion of results (if appropriate), clarity and relevance to the AMESA audience. *A developmental approach to reviewing will be applied to your paper. In other words you will be given feedback by the reviewers, which you could use to improve your paper and then (if necessary) re-submit for further review and feedback*. If your paper is not accepted in this category it will be reconsidered for submission as a short paper presentation.

Publication of Long Papers: Authors may choose not to have their accepted long papers published in the AMESA 2017Congress Proceedings, to keep open the possibility to submit it to a journal. Note that authors must still submit the full manuscript for review, but if they choose to exclude their long paper from the Proceedings, they must then submit an extended abstract of 2-4 pages of the paper and this extended abstract will then be published in the Proceedings.

Guidelines for submission of Short Papers

Length: 5–8 pages: Each Short Paper presentation will be given a total time of 30 minutes: 20 minutes for oral presentation and 10 minutes for discussion. This kind of presentation is most suitable for work in progress and may include the following:

1. Reflection on teaching or practice: This is mainly for mathematics educators who would like to share their reflections on their teaching or on their participation in a developmental project or research project. For reflection on teaching you need to specify the following:

- The grade and class size;
- The mathematics topic taught;
- The mathematical goals and purposes;
- A description of the lesson;
- What factors contributed to the success of the lesson;
- What factors tended to hamper success and how you dealt with them.

2. For reflection on participation in a mathematics development project you should specify the following:

- The duration of the project;
- Mathematical aspects covered by the project;
- Practical examples of how participation in the project impacted on your teaching.

3. The presentation of Mathematics/Mathematical literacy content: For details on this type of presentation, refer to number 2 under the long papers.

4. Proposals: Research or development: This can be a presentation of a proposal for a research or mathematics education developmental project and should include the following:

- A description of the focus of the research project or developmental project;
- Motivation for the study or project;
- Some indication of the theoretical framework of the study or project;
- Some discussion of the related literature;
- How the study or project will be undertaken, including some justification of methodology;
- Participants and time lines;
- List of references.

5. Initial sharing of data: This is mainly for people who have done research and are still working on their analyses. The paper should include the following:

- A statement about the focus of the paper or the research questions, and a motivation for the significance of the research;
- Some aspects of the theoretical framework of the study reported;
- Some discussion of the related literature;
- An indication of and justification for the methodology used;
- Some sample data and initial analysis or description of data;
- List of references.

Reviewing: Two reviewers, with experience in the area, will review your paper. Specifically, reviewers will be asked to comment on the following: mathematical content, conceptual coherence, clarity and relevance to the AMESA audience. *A developmental approach to reviewing will be applied to your paper. In other words you will be given feedback by the reviewers, which you could use to improve your paper and then (if necessary) re-submit for further review and feedback*.

Guidelines for “How I teach” Papers

Length: Minimum 1 page and a maximum of 4 pages.

Critical information to be included:

- **Title**: A heading for your paper e.g. How to use paper folding in geometry.
- **Name**: Your Name and Surname
- **Organisation**: Where you are from e.g. the name of your school.
- **Phase:** The phase your talk is aimed at i.e. foundation, intermediate, senior, FET or tertiary.
- **Introduction:** Include here a paragraph on what your talk is about. Why you chose to talk about it. What you are going to do in the talk.
- **Content:** You might want to write one or two sentences on your experiences of using such activities in your class and some of the advantages or disadvantages of using the activities.
- Also provide here a brief conclusion on the talk.
- **References:** Add here any references that you might have used. In other words, if you took the activities from a textbook or from the internet, please acknowledge these sources.
- There may be other headings you want to include (e.g. “teacher tips”) – please feel free to do so.

Reviewing

Your paper will be reviewed. *A developmental approach to reviewing will be applied to your paper. In other words you will be given feedback by the reviewers, which you could use to improve your paper and then (if necessary) re-submit for further review and feedback*. The Academic Committee of Congress 2017 reserves the right to make minor editing changes.

Guidelines for Posters

Poster presentations are available for those whose work is more suitably communicated in a pictorial or graphical format, rather than through an oral presentation. There is no formal oral presentation associated with posters, but a time will be allotted, after sufficient display time, during which presenters will be available at their posters for informal discussion with participants. A poster (1,2 m x 1,8 m board), can present research projects, software developments, curricula innovations, educational programmes, etc., related to Mathematics Education.

Note the following as you prepare your proposal for a poster:

- Your proposal should describe both the contents of the poster and its particular visual (pictorial or graphical) characteristics.
- Your proposal should be restricted to one page, including references and figures. If accepted, this text will be included in the Congress Proceedings.
- Type and centre the title (in capitals), author(s) names, and affiliation(s) of the author(s) in this order.

Reviewing

The Academic Committee will review the proposals for Poster Presentations. If your proposal is accepted, the Academic Committee will provide further guidance on the preparation of the actual poster itself.

Guidelines for Workshop Presentations

Note that workshop write-ups and the worksheets will *not* be published in the Congress Proceedings. It will be included in the CD-ROM Proceedings, and copies of the activities will only be duplicated for the workshop participants. Your proposal should include:

1. **Motivation for running workshop.** This is for reviewing and should include:
   - **Title of the workshop**
   - **Name of presenter(s)**
   - **Institution where you are employed**
   - **Target audience:** The phase your workshop is aimed at e.g. intermediate.
   - **Duration:** There will be 1-hour or 2-hour workshop slots. Please ensure that you choose an appropriate length slot.
   - **Maximum number of participants:** You may limit the number of participants in your workshop. Workshop presenters should attempt to cater for at least 30 participants.
   - **Motivation for the workshop:** Why is the workshop important? How will it help participants?
   - **Description of content of workshop**
   - **What will be done in the workshop**? How will the time slot be broken up?
   - **The activities and worksheets to be used in the workshop** (maximum 8 pages)

2. **An abstract describing the level, nature and content of the workshop** (200 words)
   Note: Only this abstract will be published in the Congress Proceedings.
   Note:
   - Workshops need to be **hands-on sessions** where participants are **actively involved** in doing the activities that you provide. Usually these activities will be done in groups, consisting of 3–5 participants. There should also be ample time for discussions (approximately 25% of your time is suggested).
   - If you have used ideas from other sources, it is essential that you acknowledge these sources.
   - We will *not* accept any submissions where more than two pages have been copied directly from another source.

   Reviewing: The Academic Committee will review the proposals for Workshop Presentations.

Technical guidelines for preparing manuscripts

We are endeavouring to work towards a uniform appearance for all papers in the Congress Proceedings. An electronic template and guidelines will be available from the congress website.

Please use the template as the basis for your paper and adhere to these guidelines:

- Restrict your paper to the maximum number of pages as specified for the type of presentation, including references, figures, and appendices.
- Write the paper in English.
- Type and centre the title (in capitals), author(s) name(s), and affiliation(s) of the author(s), in this order.
- Underline the name of the presenting author(s).
- Begin the paper with an abstract of up to ten lines, single-spaced, preferably in italics.
- Use a 14-point type (Times New Roman), a 16-point line space, and 6 points between paragraphs, occupying a frame of 170 mm by 247 mm. Please use exact dimensions, and fill the entire frame. Remember that the original text will be reduced in the Proceedings.
- Give references in the APA style.
- **Do not number the pages**

E-mail the paper as an attachment (word document) to the Academic Coordinator by 24 February 2017, together with your completed Presentation Proposal Form. **Fax copies will <u>not</u> be accepted.**

TABLE OF PRESENTATION CATEGORIES

This page is for your reference when completing the Reviewer Form or the Presentation Proposal Form.
Reviewers will receive proposals for review according to their preferred categories that they mark in their Reviewer Form.
The proposals will be sent to reviewers according to the presentation categories that authors have marked in their Presentation Proposal Form.

Educational level	
1. Foundation Phase (Gr R–3)	4. Further Education & Training (Gr 10-12)
2. Intermediate Phase (Gr 4–6)	5. Teacher Education (pre- & in-service training)
3. Senior Phase (Gr 7–9)	

In the case of research, please state the type of research:	
1. Empirical/ Experimental	4. Ethnographic/Interpretative
2. Statistical	5. Theoretical/Philosophical
3. Case study	6. Action research

Focus themes for presentation:	
1. Indigenous Knowledge Systems	**15.** Reasoning, proof and proving in mathematics education
2. Financial Mathematics	**16.** Problem solving and modelling in mathematics education
3. Mathematical Literacy	**17.** Functions and graphs
4. Teaching and learning of geometry	**18.** Numeracy
5. Teaching and learning of probability	**19.** Classroom practice
6. Teaching and learning of algebra	**20.** Geometric and spatial reasoning
7. Teaching and learning of calculus	**21.** Measurement: Focusing on primary education
8. Teaching and learning of patterns and sequences	**22.** Mathematics Education in a multilingual and multicultural context
9. Teaching and learning of fractions	**23.** Mathematics curriculum development
10. Motivation, beliefs and attitudes towards mathematics and its teaching	**24.** Assessment in Mathematics Education
11. Mathematical knowledge for teaching	**25.** Mathematics Education at secondary level and access to tertiary education
12. Mathematics in context	**26.** In-service education; professional development of teachers
13. Enhancing learner understanding of mathematical concepts	**27.** Other suitable focus themes not covered here (please state in your presentation proposal form)
14. The use of technology in the teaching and learning of mathematics	

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PRESENTATION PROPOSAL FORM

This form must be completed for every presentation proposal and submitted to the Academic Coordinator.
Note: You may prefer to complete the electronic form on the Congress website.

DEADLINE: 24 February 2017

PLEASE TYPE OR HAND - WRITE BY USING ONLY CAPITAL LETTERS

Type of Presentation (mark one) Long paper ☐ Short paper ☐ How I teach ☐ Poster ☐ Workshop (1 h) ☐
Title of presentation:
Author(s):
Presenting Author(s):
Contact Details: *The following information should be completed only for the Presenting Authors:* Postal address: City:……..Postal Code: …… Tel No: ……Cell No:…….. Fax No: ……...Email:…….
Complete to assist the Programme Committee in finding you an appropriate reviewer Presentation categories (choose relevant numbers from the Table on page 13): Focus Themes (mark at most three numbers from 1 – 28): ____ Educational level (1 – 5): ____ Type of Research if applicable (from 1 – 6): _____
Only for Long PAPERS: Publish my Long Paper in AMESA 2017 Proceedings? **YES** ☐ **NO** ☐

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REVIEWER FORM

Please complete the form if you are prepared to help review submitted papers for the Congress.

To qualify as a reviewer, you must be a current AMESA member and have presented a reviewed paper (a long or short paper) at previous AMESA congresses, or have published in Pythagoras or another reviewed journal.

DEADLINE: 17 February 2017

Note: you may prefer to complete the electronic form on the congress website.

PLEASE TYPE OR HAND – WRITE BY USING CAPITAL LETTERS

Contact Details	
Name:	
Institution:	
Postal address:	
City:	Code:
Tel No:	
Cell No:	
Fax No:	
Email:	

Complete to assist the Programme Committee to match you to appropriate submissions

Presentation categories (choose relevant numbers from the Table on page 12

Please choose at most 4 Focus Themes (1 – 24):

☐ ☐ ☐ ☐

Please choose your preferred Educational Levels (numbers 1 – 5)

☐ ☐ ☐ ☐

Please choose your preferred Type of Research (1 – 6)

☐ ☐ ☐ ☐

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Dudley Bester
c/o Ithembelihle Comprehensive School
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Port Elizabeth
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Application for financial support: AMESA 2017 CONGRESS
DEADLINE: 31 March 2017

I, …… , would like to apply for financial support to attend AMESA 2017 national Congress..

Surname: ……

First Names: ……..

Postal Address: ……

……..

Postal Code: …….

Institution: …….....

Area of interest: (primary/secondary/Tertiary): ……

Tel: (Home): …….. (Work) …… Fax: …….....

Email: ……

Complete 1 and 2 below and take note of 3:

1. I am an AMESA member: YES/NO ……. Membership no: ……..
2. I am able to contribute R ……. of the projected R…….. costs for my attendance
3. I undertake to write an article/report on AMESA Congress 2017 which may be published in AMESA News.

Signature: ……. Date: …….

Note:

- *A typed ½ to 1 page motivation as well as a detailed budget must accompany this application. The application will not be considered without a detailed budget.*
- *Preference for funding will be given to paid-up AMESA members who will be participating in the Congress programme.*

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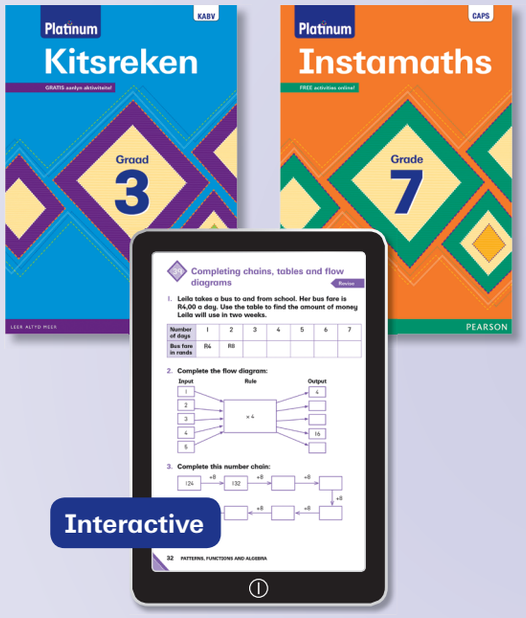
Practise makes
Maths perfect



Purchase eBooks at http://shop.pearson.co.za

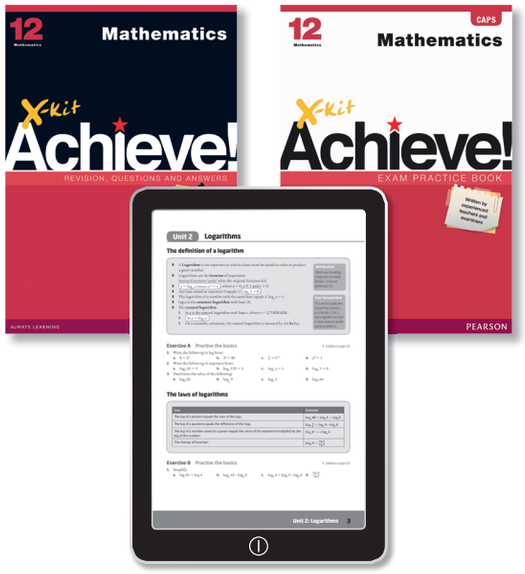
Platinum

CAPS

Instamaths

Platinum Instamaths is a solution for teachers who want their learners to have a clear and confident understanding of Maths. The workbooks feature essential exercises that promote and consolidate problem-solving skills for learners.

- CAPS-aligned exercises for plenty of practice.
- All the answers are provided as a pull-out section in the middle of the book.
- Available for Grade 3–7 and in Afrikaans as **Platinum Kitsreken**.
- FREE additional online exercises for revision and extension, visit www.platinuminstamaths.co.za



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CAPS

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