

Final



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

**MATHEMATICS P2
COMMON TEST
JUNE 2022
MARKING GUIDELINE**

MARKS: 150

TIME: 3 hours

NOTE:

- If a candidate answered a QUESTION TWICE, mark only the FIRST attempt.
- If a candidate crossed out an answer and did not redo it, mark the crossed-out answer.
- Consistent accuracy applies to ALL aspects of the marking guidelines.
- Assuming values/answer to solve a problem is unacceptable.

This marking guideline consists of 12 pages.

Maths Paper2 Jume 2013 Grade 10

T. Craig, Hugh W. Springer



Maths Paper2 June 2013 Grade 10:

Teaching Mathematics Creatively Linda Pound, Trisha Lee, 2021-09-30 This revised and updated third edition offers a range of strategies activities and ideas to bring mathematics to life in the primary classroom Taking an innovative and playful approach to maths teaching this book promotes creativity as a key element of practice and offers ideas to help your students develop knowledge understanding and enjoyment of the subject In the creative classroom mathematics becomes a tool to build confidence develop problem solving skills and motivate children The fresh approaches explored in this book include a range of activities such as storytelling music and construction elevating maths learning beyond subject knowledge itself to enable students to see mathematics in a new way Key chapters of this book explore Learning maths outdoors make more noise make more mess or work on a larger scale Everyday maths making sense of the numbers patterns shapes and measures children see around them Music and maths the role of rhythm in learning and music and pattern in maths Stimulating accessible and underpinned by the latest research and theory this is essential reading for trainee and practising teachers who wish to embed creative approaches to maths teaching in their classroom

Research for Educational Change Jill Adler, Anna Sfard, 2016-06-17 Research for Educational Change presents ways in which educational research can fulfil its commitments to educational practice Focussing its discussion within the context of mathematics education it argues that while research generated insights can have beneficial effects on learning and teaching the question of how these effects are to be generated and sustained is far from evident The question of how to turn research into educational improvement is discussed here in the context of learning and teaching hindered by poverty and social injustice In the first part of the book four teams of researchers use different methodologies while analysing the same corpus of data collected in a South African mathematics classroom In the second part each of these teams makes a specific proposal about what can be done and how so that its research generated insights have a tangible beneficial impact on what is happening in mathematical classrooms Combining two discourses that of researchers speaking to one another and that of researchers communicating their insights to those responsible for educational practice the book deals with the perennial question of communication between those who study educational processes and those who are directly responsible for teacher education educational research and classroom practices This book will be key reading for postgraduates researchers and academics in education and particularly in the areas of mathematics education education research teacher education and classroom practice It will also appeal to teacher educators practitioners and undergraduate students interested in educational research

Teaching and Learning Secondary School Mathematics Ann Kajander, Jennifer Holm, Egan J Chernoff, 2018-10-24 This volume brings together recent research and commentary in secondary school mathematics from a breadth of contemporary Canadian and International researchers and educators It is both representative of mathematics education generally as well as unique to the particular geography and culture of Canada The chapters address topics of broad applicability such as technology in learning

mathematics recent interest in social justice contexts in the learning of mathematics as well as Indigenous education The voices of classroom practitioners the group ultimately responsible for implementing this new vision of mathematics teaching and learning are not forgotten Each section includes a chapter written by a classroom teacher making this volume unique in its approach We have much to learn from one another and this volume takes the stance that the development of a united vision supported by both research and professional dialog provides the first step The Armed Forces Covenant in action? Great Britain: Parliament: House of Commons: Defence Committee,2013-07-18 A series of Ofsted inspections on Army Apprenticeships conducted in 2013 rated the overall effectiveness as good This was an improvement over the last inspection in 2009 rated as satisfactory now called requires improvement Some 28 per cent of Army recruits were less than 18 years of age Further information is needed on why the Army is so dependent on recruiting personnel under the age of 18 years compared to the other two Services and whether steps are being taken to reduce this dependency Of those recruited in 2012 3 5 per cent of the Army were rated at entry level 2 for literacy that of a 7 to 8 year old and 39 per cent had a literacy level of an eleven year old If as the MoD states it has to recruit personnel at whatever level of attainment is available then it should boost remedial action when recruitment entry standards are particularly low In light of changes brought about by Future Force 2020 it may be that recruiting personnel with higher levels of attainment would better meet the future needs of the Armed Forces Whilst the Committee recognises that some recruits may not be eager to take further academic exams the MoD should encourage more recruits to undertake English and Maths GCSEs which would stand them in good stead for future employment The MoD has carried out some useful pilot projects with paramedic training and should identify more potential projects to ensure that vital skills paid for by the MoD are not lost to the country *The Linguistic Challenge of the Transition to Secondary School* Alice Deignan,Duygu Candarli,Florence Oxley,2022-12-30 This book provides a unique analysis and description of the linguistic challenges faced by school students as they move from primary to secondary school a major transition which some students struggle with emotionally and academically The study draws on a bespoke corpus of 2 5 million words of written materials and transcribed classroom recordings provided by the project s partner schools combines quantitative and qualitative approaches to the corpus data to explore linguistic variation across school levels registers and subjects describes the procedures of corpus compilation and analysis of written and spoken academic language showing how modern corpus tools can be applied to this far reaching social and educational issue uncovers differences and similarities between the academic language that school children are exposed to at primary and secondary school contrasting this against the backdrop of the non academic language that they encounter outside school This book is important reading for advanced students and researchers in corpus linguistics applied linguistics and teacher education It carries implications for policymakers and schools looking to support students at this critical point in their schooling The Open Access version of this book available at <http://www.taylorfrancis.com> has been made available under a Creative Commons Attribution Non

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Table of Contents Maths Paper2 June 2013 Grade 10

1. Understanding the eBook Maths Paper2 June 2013 Grade 10
 - The Rise of Digital Reading Maths Paper2 June 2013 Grade 10
 - Advantages of eBooks Over Traditional Books
2. Identifying Maths Paper2 June 2013 Grade 10
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Maths Paper2 June 2013 Grade 10
 - User-Friendly Interface
4. Exploring eBook Recommendations from Maths Paper2 June 2013 Grade 10
 - Personalized Recommendations
 - Maths Paper2 June 2013 Grade 10 User Reviews and Ratings
 - Maths Paper2 June 2013 Grade 10 and Bestseller Lists
5. Accessing Maths Paper2 June 2013 Grade 10 Free and Paid eBooks
 - Maths Paper2 June 2013 Grade 10 Public Domain eBooks
 - Maths Paper2 June 2013 Grade 10 eBook Subscription Services
 - Maths Paper2 June 2013 Grade 10 Budget-Friendly Options
6. Navigating Maths Paper2 June 2013 Grade 10 eBook Formats

- ePub, PDF, MOBI, and More
- Maths Paper2 Jume 2013 Grade 10 Compatibility with Devices
- Maths Paper2 Jume 2013 Grade 10 Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Maths Paper2 Jume 2013 Grade 10
 - Highlighting and Note-Taking Maths Paper2 Jume 2013 Grade 10
 - Interactive Elements Maths Paper2 Jume 2013 Grade 10
- 8. Staying Engaged with Maths Paper2 Jume 2013 Grade 10
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Maths Paper2 Jume 2013 Grade 10
- 9. Balancing eBooks and Physical Books Maths Paper2 Jume 2013 Grade 10
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Maths Paper2 Jume 2013 Grade 10
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Maths Paper2 Jume 2013 Grade 10
 - Setting Reading Goals Maths Paper2 Jume 2013 Grade 10
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Maths Paper2 Jume 2013 Grade 10
 - Fact-Checking eBook Content of Maths Paper2 Jume 2013 Grade 10
 - Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

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3 four quadrant operation of dc motor four quadrant operation or mode of any dc motor means that machine operate in four quadrants they are forward braking mode forward motoring mode reverse braking or stop mode and reverse motoring mode a motor operates in two modes motoring and braking a motor drive capable of

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aug 8 2020 1 answer sorted by 1 you can think of the first quadrant operation as being a buck converter down from the supply to the motor you can think of the second quadrant as being a boost converter from the motor s generated low voltage up to the supply voltage

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put simply the four quadrants that the controller can work in are 1 motor going clockwise controller applying clockwise drive 2 motor going anti clockwise controller applying anti clockwise drive 3 motor going clockwise controller applying anti clockwise drive 4 motor going anti clockwise controller applying clockwise drive

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sep 11 2019 four quadrants drive dc chopper for series motor full size image this modes of operation can be controlled by ai controllers such as expert system fuzzy logic self tuning fuzzy 10 11 12 13 14 15 16 neural network as well as anfis but this paper focused only on the circuit operation of generator mode

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four quadrant operation of dc motor means that the machine operates in four quadrants they are forward braking forward motoring reverse motoring and reverse braking a motor operates in two modes motoring and braking

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1 to observe the four quadrant operation of a dc motor 2 to control a motor under torque control 3 to couple the speed control motor and torque controlled motor and observe the effect of a stepped torque 6 2 four quadrant operation of a dc motor the four quadrant operation is performed by giving an alternating reference speed command to

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aug 16 2021 the four quadrant operation of the motor can be described as follows quadrant i in the first quadrant the developed power by the motor is positive thus the motor operates in motoring mode and converts electrical energy into mechanical energy therefore the operation of the motor in first quadrant is called forward motoring quadrant ii

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the control of bldc motor in four quadrants is very crucial in this paper bldc motor is controlled in all the four quadrants without any wastage of power during regenerative braking period power generated is being stored in the chargeable battery

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aug 3 2019 introduction in this experiment four quadrant operation of a dc motor is simulated as well as run in real time the speed and current control model developed in the previous experiment is used to emulate the four regions of operation theoretical background consider an elevator system shown in figure below

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jan 1 2018 doi org 10 1016 j matpr 2017 11 261 get rights and content this paper proposes a method that designs a simulation model of four quadrant operation of bldc motor drive and to reduce the torque ripples in the developed model the characteristics of speed torque back emf are effectively monitored and analyzed

electric drives experiment 5 four quadrant operation of a pmdc motor - Jul 07 2022

four quadrant operation of a pmdc motor 5 1 objective the objective of this activity is to analyze the four quadrant operation of a permanent magnet dc pmdc motor this activity was derived from those developed and distributed by the university of minnesota umn 5 2 review of four quadrant operation