

**GRADE 11 MATHEMATICS  
NOVEMBER EXAMINATION PAPER 2**

**QUESTION 1**

1.1 Calculate the following with the use of a calculator:

1.1.1  $\sin 43^\circ + \cos 47^\circ$  (1)

1.1.2  $\tan^2 50^\circ$  (1)

1.1.3  $\cot 33^\circ + \operatorname{cosec} 15^\circ$  (1)

1.2 If  $A = 34,3^\circ$  and  $B = 22,2^\circ$ , calculate the following to two decimal places:

1.2.1  $\sin (A + B)$  (2)

1.2.2  $\sec \left( \frac{A}{2} \right)$  (2)

1.3 Calculate the following without the use of a calculator:

1.3.1  $\sin 30^\circ + \cos 60^\circ$  (1)

1.3.2  $\tan 45^\circ + \cos 45^\circ$  (1)

1.3.3  $\cos 90^\circ + \sin 90^\circ$  (1)

[12]

**QUESTION 2**

Without the use of a calculator, answer the following questions:

2.1 Given  $\cos \theta = -\frac{1}{2}$  and  $0^\circ \leq \theta \leq 180^\circ$   
Use a diagram to determine the values of:

2.1.1  $\tan (180^\circ + \theta)$  (1)

2.1.2  $3\sin (\theta - 90^\circ)$  (2)

2.2 Simplify the following expression:  $\frac{\sin(-230^\circ)}{\cos(240^\circ)} + \frac{\cos(190^\circ)}{\sin(260^\circ)}$  (5)

2.3 Prove that:  $\tan \theta \sqrt{\frac{1}{\sin^2 \theta} - 1} = 1$  (4)

2.4 Determine the general solution for:  $3\sin^2 \theta + 1 = \sin \theta$  (6)

[28]

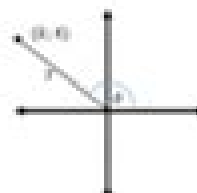
**QUESTION 3**

3.1 Sketch on the same set of axes the graphs for:

$f(x) = -2\cos x$  and  $g(x) = \sin 2x$ , for the interval  $-90^\circ \leq x \leq 180^\circ$ .

Show the coordinates of the turning points and all axis intercepts. (5)

3.2 Study the following sketch and determine the value of  $\cos \theta - \cos \phi$ , without the use of a calculator.



(5)  
[10]

**QUESTION 4**

In the diagram below, the angle between line AB and the x-axis is  $\beta$ . The angle between line CD and the x-axis is  $\theta$ . A and D are the x-axis intercept points for lines AB and CD respectively. The coordinates of point B are  $(\sqrt{3}, 2)$ .

The intercept point E, of lines AB and CD lies on the y-axis.  $\angle EDC = 63,69^\circ$

The equation of the line CD is given as:  $3x + 2y = 6$



4.1 Determine the coordinates of E. (2)

4.2 Calculate the numerical value of  $\alpha$ . (2)

4.3 Calculate the numerical value of  $\beta$ . (2)

# Grade 1november 2013 Exam Memorandum Maths

**Chao Zhang**

A red circular graphic with a gradient, appearing as a semi-circle or a partial circle, located to the right of the name Chao Zhang.

## **Grade 1 November 2013 Exam Memorandum Maths:**

*After the Education Wars* Andrea Gabor, 2018-06-12 The education wars have been demoralizing for teachers After the Education Wars helps us to see a better way forward Cathy N Davidson The New York Times Book Review After the Education Wars is an important book that points the way to genuine reform Diane Ravitch author of *Reign of Error* and *The Death and Life of the Great American School System* A bestselling business journalist critiques the top down approach of popular education reforms and profiles the unexpected success of schools embracing a nimbler more democratic entrepreneurialism In an entirely fresh take on school reform business journalist and bestselling author Andrea Gabor argues that Bill Gates Eli Broad and other leaders of the prevailing education reform movement have borrowed all the wrong lessons from the business world After the Education Wars explains how the market based measures and carrot and stick incentives informing today's reforms are out of sync with the nurturing culture that good schools foster and contrary to popular belief at odds with the best practices of thriving twenty first century companies as well These rich detailed stories of real reform in action illustrate how enduring change must be deeply collaborative and relentlessly focused on improvement from the grass roots up lessons also learned from both the open source software and quality movements The good news is that solutions born of this philosophy are all around us from Brockton Massachusetts where the state's once failing largest high school now sends most graduates to college to Leander Texas a large district where school improvement spurred by the ideas of quality guru W Edwards Deming has become a way of life A welcome exception to the doom and gloom canon of education reform After the Education Wars makes clear that what's needed is not more grand ideas but practical and informed ways to grow the best ones that are already transforming schools

*Qualitative Research* Sharon M. Ravitch, Nicole Mittenfelner Carl, 2019-12-20 The second edition of *Qualitative Research* focuses on cultivating and bridging theoretical methodological and conceptual aspects to provide insight into their interactions in qualitative research This comprehensive text helps students understand the central concepts topics and skills necessary to engage in rigorous valid and respectful qualitative research Authors Sharon M Ravitch and Nicole Mittenfelner Carl have written this text with student researchers in mind balancing communicating the foundations and processes of qualitative research with clarity and simplicity while also capturing its complexity and layers Whether students are new to qualitative research or not this book will help students develop and deepen their understanding of an approach to research that seeks designs for and engages criticality in research The new edition of this book includes a more prominently placed and expanded discussion of research ethics as crucial to students inquiry more information on reflexivity in data collection and individual methods for qualitative data collection a more in depth chapter on coding and other types of qualitative data analysis and more thorough resource sections including connections to the extensive appendices so students can further their qualitative research journey Included with this title The password protected Instructor Resource Site formally known as SAGE Edge offers access to all text specific resources

including a test bank and editable chapter specific PowerPoint slides      **Daily Graphic** I.K. Nkrumah,1976-02-17      The Schenley Experiment Jake Oresick,2017-04-14 The Schenley Experiment is the story of Pittsburgh s first public high school a social incubator in a largely segregated city that was highly even improbably successful throughout its 156 year existence Established in 1855 as Central High School and reorganized in 1916 Schenley High School was a model of innovative public education and an ongoing experiment in diversity Its graduates include Andy Warhol actor Bill Nunn and jazz virtuoso Earl Hines and its prestigious academic program and pensions lured such teachers as future Pulitzer Prize winner Willa Cather The subject of investment as well as destructive neglect the school reflects the history of the city of Pittsburgh and provides a study in both the best and worst of urban public education practices there and across the Rust Belt Integrated decades before Brown v Board of Education Schenley succumbed to default segregation during the white flight of the 1970s it rose again to prominence in the late 1980s when parents camped out in six day long lines to enroll their children in visionary superintendent Richard C Wallace s reinvigorated school Although the historic triangular building was a cornerstone of its North Oakland neighborhood and a showpiece for the city of Pittsburgh officials closed the school in 2008 citing over 50 million in necessary renovations a controversial event that captured national attention Schenley alumnus Jake Oresick tells this story through interviews historical documents and hundreds of first person accounts drawn from a community indelibly tied to the school A memorable important work of local and educational history his book is a case study of desegregation magnet education and the changing nature and legacies of America s oldest public schools      The Making of Twenty-First-Century Richmond Thad Williamson,Julian M. Hayter,Amy L. Howard,2024-12-02 Richmond Virginia took center stage globally in the summer of 2020 as an epicenter of antiracist protests in the wake of the police murder of George Floyd In a period of just a few weeks overwhelming public support grew for removing Richmond s Confederate monuments Activists then transformed the remaining statue of Robert E Lee into a shrine to African American resolve to the Black Lives Matter movement and to Black victims of police brutality Coming to terms with Richmond s tortured racial history however is much more difficult than toppling symbols of white supremacy This book explores these dynamics via a multidisciplinary framework of historical research public policy analysis and political analysis showing the inner dynamics of politics and governance in Richmond The authors reveal why change and progress has often been so difficult to achieve and why that matters with a focus on three fundamental policy areas education economic development and housing The result is a comprehensive assessment of urban governance in a major southern city in the early twenty first century as well as an accounting of the policy and human consequences of both its limited successes and its recurring failures      **Books in Print Supplement** ,1984      Навчитися вчитися. Як запустити свій мозок на повну Барбара Оклі,2020-04-16 а е а і а рі ро есор а ар апа О і ере о о а х о е і с о е і а с а р і о е і а о а с о і а о о е а с с а с с і о о а о а і е о о а і і і е с р о а р х о р о а р о е е а а р а x I o a p o p o p o a a o o a a i o o o a c c o p e a i c a i o p a e a p o a a e a o a a i      *Who's who Among Students in*

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