

GRADE 12 MATHEMATICS
NOVEMBER EXAMINATION PAPER 1

QUESTION 1

1.1 Solve for x

1.1.1 $x^2 - 9x + 20 = 0$ (3)

1.1.2 $x(x + 3) - 1 = 0$ (correct to 2 decimal points) (3)

1.1.3 $x^2 + 7x < 0$ (3)

1.1.4 $2x^{\frac{2}{3}} = 64$ (4)

1.2 Solve simultaneously for x and y if:

$2x - y = 8$, and
 $x^2 - xy + y^2 = 19$ (7)

1.3 Solve the expression below without the use of a calculator:

$$\frac{\sqrt[3]{4} + \sqrt[3]{2}}{\sqrt[3]{16}}$$

(4)

QUESTION 2

2.1 The terms p , $(2p + 2)$, $(5p + 3)$ form an arithmetic sequence.

Determine:

2.1.1 The value of p . (4)

2.1.2 The rule in the form of $a_n = a + (n - 1)d$. (2)

2.1.3 The 15th term of the sequence. (4)

2.2 x , y , 81 is a geometric sequence.
And $y = 2x - 5$
All terms in the sequences are integers.
Calculate the values of x and y . (10)

(20)

QUESTION 3

Given the sequence 2, 8, 10, 14,

3.1 What type of sequence is this? Justify your answer by calculation. (2)

3.2 Calculate T_{10} . (3)

3.3 Which term has a value of 322? (3)

3.4 Determine by calculation if 1204 is a term in the sequence? (4)

(12)

QUESTION 4

The sketch below shows the graph of $f(x) = \frac{-1}{x+5} + q$. The asymptotes of f intersects at $B(-1; y)$. The Point $D(5; 4)$ is a point on the graph.



4.1 Determine the value of p . (1)

4.2 Prove that $q = 5$. (2)

4.3 Calculate the x -intercept of f . (2)

4.4 Determine the equation of the vertical asymptote of h if $h(x) = f(x + 4)$. (2)

4.5 One of the symmetry axes of f is an increasing function. Determine the equation of the symmetry axis. (3)

4.6 Give the values x for $f(x) \geq x + 6$. (2)

4.7 Determine the equation of g , the reflection of f in the x -axis and move two units to the right. (3)

(15)

Grade12 Mathematics Memorandum November 2013

**Cyril Julie, Lorna Holtman, Charles R.
Smith**



Grade12 Mathematics Memorandum November 2013:

Caught in the Act Cyril Julie,Lorna Holtman,Charles R. Smith,2019-12-11 The research reported in Caught in the Act draws together the insights gained from a continuous professional development initiative for high school mathematics teachers teaching in low socio economic status and socially challenged environments in South Africa The chapters show the possibilities for enhancing achievement in school mathematics if a strength based approach is adopted to develop teaching with teachers and when their concerns are taken seriously The book demonstrates that the ecological relevance fitness for the context in which teachers are teaching of the goods developed and distributed by initiatives should be a major consideration to offer hope for sustainable implementation to improve school mathematics education The book is of interest to mathematics teachers school leaders mathematics curriculum advisors policy makers and researchers

Competency-Based Education Rose L. Colby,2019-01-02 Competency Based Education introduces educators to a new model for anytime anywhere schooling and provides tools and curriculum resources for redesigning the traditional structures of K 12 schools Based on pioneering work across multiple states the book shows how educators can design central elements of competency based education including performance tasks personal learning plans and grading systems to meet the needs and interests of all students Rose L Colby provides critical tools for creating these elements in collaborative teams and engaging stakeholders such as educators parents and community members The book incorporates case studies and voices from the field and examines the variety of competency models that schools have adopted highlighting the benefits for students Competency Based Education provides a much needed resource at a time when states districts and schools are working to implement competency based models and experimenting with new accountability systems that include evidence of learning beyond standardized tests

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

Who's who Among Students in American Universities and Colleges Henry Pettus Randall,1973

Grade 12 Essential Mathematics Achievement Test, January 2013: pt. 2 . Marking guide Manitoba. School
Programs Division, 2013

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<https://equityfwd2024.radcampaign.com/book/virtual-library/index.jsp/Complete%20Guide%20To%20Easy%20Index%20Fund%20Investing%20Guide.pdf>

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