

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:

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

(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)

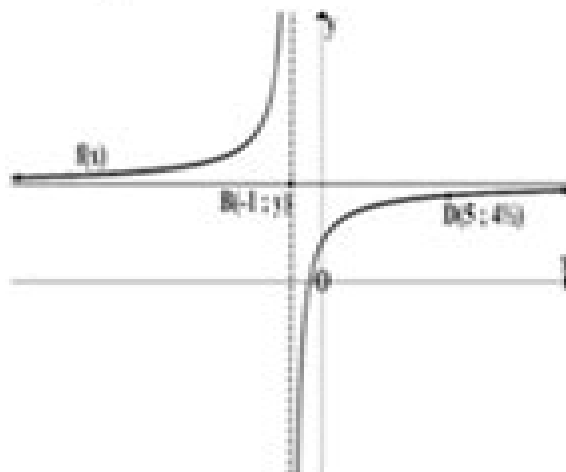
3.3 Which term has a value of 322? (3)

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

(12)

QUESTION 4

The sketch below shows the graph of $f(x) = \frac{-1}{x+5} + 4$. 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)

Grade 12 Mathematics Paper 1 November 2012

Memorandum

**Brian Barrett, Ursula Hoadley, John
Morgan**



Grade 12 Mathematics Paper 1 November 2012 Memorandum:

Knowledge, Curriculum and Equity Brian Barrett, Ursula Hoadley, John Morgan, 2017-07-20 In 2008 the first in a series of symposia established a social realist case for knowledge as an alternative to the relativist tendencies of the constructivist post structuralist and postmodernist approaches dominant in the sociology of education The second symposium focused on curriculum and the development of a theoretical language grounded in social realism to talk about issues of knowledge and curriculum Finally the third symposium brought together researchers in a broad range of contexts to build on these ideas and arguments and with a concerted empirical focus bring these social realist ideas and arguments into conversation with data Knowledge Curriculum and Equity Social Realist Perspectives contains the work of the third symposium where the strengths and gaps in the social realist approach are identified and where there is critical recognition of the need to incrementally extend the theories through empirical study Fundamentally the problem that social realism is seeking to address is about understanding the social conditions of knowledge production and exchange as well as its structuring in the curriculum and in pedagogy The central concern is with the on going social reproduction of inequality through schooling and exploring whether and how foregrounding specialised knowledge and its access holds the possibility for interrupting it This book consists of 13 chapters by different authors working in Oceania Asia Europe Africa and North America From very different vantage points the authors focus their theoretical and empirical sights on the assumptions about knowledge that underpin educational processes and the pursuit of more equitable schooling for all

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

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