



# basic education

Department  
Basic Education  
REPUBLIC OF SOUTH AFRICA

## SENIOR CERTIFICATE EXAMINATIONS NATIONAL SENIOR CERTIFICATE EXAMINATIONS

### MATHEMATICS P1

2021

MARKS: 100

TIME: 1 hour

This question paper consists of 10 pages and 1 information sheet.

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### QUESTION 1

- 1.1 Solve for  $x$ :  
  - 1.1.1  $x^2 + 3x + 2 = 0$  (5)
  - 1.1.2  $3x^2 + x - 4 = 0$  (Show partial solution in TWO distinct parts) (10)
  - 1.1.3  $x^2 = 49$  (5)
- 1.2 Given  $y = \frac{3x^2 + 5}{x}$ :  
  - 1.2.1 Solve for  $x$  (5)
  - 1.2.2 Hence solve for  $x$ :  $2x^2 + 22x = 48$  (5)
- 1.3 Without using a calculator, calculate the value of  $\sqrt{\frac{36x^2 + 49}{121x^2}}$  (5)
- 1.4 Solve for  $x$  and  $y$  simultaneously:  
 $(x + y + 1) = \frac{1}{x}$  and  $\frac{1}{y} = 4y + 1$  (10)

### QUESTION 2

- 2.1 The first term of an arithmetic sequence is 2 and the 17th term is 38.  
 Determine:  
  - 2.1.1  $d$ , the common difference of the sequence (5)
  - 2.1.2 The number of terms in the sequence if the last term of the sequence is 47 (5)
  - 2.1.3 The sum of the first 40 terms in the sequence (5)
- 2.2  $16, 25, 36, 49, \dots$  is a quadratic number pattern.  
  - 2.2.1 Write down the 100th term of the number pattern (5)
  - 2.2.2 Determine the  $n^{\text{th}}$  term of the number pattern (5)
  - 2.2.3 Determine the maximum value of the following number pattern:  
 $-12, -\frac{11}{2}, -\frac{9}{2}, -\frac{7}{2}, \dots$  (5)

# Grade12 Mathematics Paperjune Exam 2015

**M Walker**



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**Marking guide** ,2015      **PASS Mathematical Literacy Grade 12 CAPS** Cornelia G. Turner,Claudia

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*Marking guide* ,2015      2010, □□□□□□□□      **Mathematics** ,2010\*      **Mathematics** ,2010\*      Grade 12 Essential

Mathematics Achievement Test, January 2015: Student booklet ,2015      *Go Math! Grade 3* Houghton Mifflin

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## **Table of Contents Grade12 Mathematics Paperjune Exam 2015**

1. Understanding the eBook Grade12 Mathematics Paperjune Exam 2015
  - The Rise of Digital Reading Grade12 Mathematics Paperjune Exam 2015
  - Advantages of eBooks Over Traditional Books
2. Identifying Grade12 Mathematics Paperjune Exam 2015
  - 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 Grade12 Mathematics Paperjune Exam 2015
  - User-Friendly Interface
4. Exploring eBook Recommendations from Grade12 Mathematics Paperjune Exam 2015
  - Personalized Recommendations
  - Grade12 Mathematics Paperjune Exam 2015 User Reviews and Ratings
  - Grade12 Mathematics Paperjune Exam 2015 and Bestseller Lists
5. Accessing Grade12 Mathematics Paperjune Exam 2015 Free and Paid eBooks
  - Grade12 Mathematics Paperjune Exam 2015 Public Domain eBooks
  - Grade12 Mathematics Paperjune Exam 2015 eBook Subscription Services
  - Grade12 Mathematics Paperjune Exam 2015 Budget-Friendly Options
6. Navigating Grade12 Mathematics Paperjune Exam 2015 eBook Formats

- ePub, PDF, MOBI, and More
  - Grade12 Mathematics Paperjune Exam 2015 Compatibility with Devices
  - Grade12 Mathematics Paperjune Exam 2015 Enhanced eBook Features
7. Enhancing Your Reading Experience
    - Adjustable Fonts and Text Sizes of Grade12 Mathematics Paperjune Exam 2015
    - Highlighting and Note-Taking Grade12 Mathematics Paperjune Exam 2015
    - Interactive Elements Grade12 Mathematics Paperjune Exam 2015
  8. Staying Engaged with Grade12 Mathematics Paperjune Exam 2015
    - Joining Online Reading Communities
    - Participating in Virtual Book Clubs
    - Following Authors and Publishers Grade12 Mathematics Paperjune Exam 2015
  9. Balancing eBooks and Physical Books Grade12 Mathematics Paperjune Exam 2015
    - Benefits of a Digital Library
    - Creating a Diverse Reading Collection Grade12 Mathematics Paperjune Exam 2015
  10. Overcoming Reading Challenges
    - Dealing with Digital Eye Strain
    - Minimizing Distractions
    - Managing Screen Time
  11. Cultivating a Reading Routine Grade12 Mathematics Paperjune Exam 2015
    - Setting Reading Goals Grade12 Mathematics Paperjune Exam 2015
    - Carving Out Dedicated Reading Time
  12. Sourcing Reliable Information of Grade12 Mathematics Paperjune Exam 2015
    - Fact-Checking eBook Content of Grade12 Mathematics Paperjune Exam 2015
    - 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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