

Done

SAMPLE QUESTION PAPER 1

A Highly Simulated Sample Question Paper for ISC Class XII

MATHEMATICS (Fully Solved)

GENERAL INSTRUCTIONS

1. The Question Paper consists of three sections A, B and C.
2. Candidates are required to attempt all questions from **Section A** and all questions **either** from **Section B** or **Section C**.
3. **Section A**: Internal choice has been provided in two questions of two marks each, two questions of four marks each and two questions of six marks each.
4. **Section B**: Internal choice has been provided in one question of two marks and one question of four marks.
5. **Section C**: Internal choice has been provided in one question of two marks and one question of four marks.
6. All working, including rough work, should be done on the same sheet as, and adjacent to the rest of the answer.
7. The intended marks for questions or parts of questions are given in brackets [].
8. Mathematical tables and graph papers are provided.

Time : 3 Hours

Max. Marks : 80

FULLY SOLVED

Section A (65 Marks)

1. In sub-parts (i) to (x) choose the correct option and in sub-parts (xi) to (xv), answer the questions as instructed. (15 × 1)
- X (i) If the binary operation $*$ defined on Q , is defined as $a * b = 2a + b - ab, \forall a, b \in Q$, then the value of $3 * 4$ is:
- (a) 2 (b) -2 (c) 3 (d) -3
- (ii) Let $A = \{1, 2, 3, \dots, n\}$ and $B = \{a, b\}$. Then, the number of surjection from A into B is
- (a) ${}^n P_n$ (b) $2^n - 2$ (c) $2^n - 1$ (d) None of these
- (iii) Value of $\sin\left(2 \sin^{-1} \frac{3}{5}\right)$ is
- (a) $\frac{12}{25}$ (b) $\frac{24}{25}$ (c) $\frac{13}{25}$ (d) $\frac{17}{25}$
- O (iv) If $A = \begin{bmatrix} 2 & 3 \\ 1 & 2 \end{bmatrix}, B = \begin{bmatrix} 1 & 3 & 2 \\ 4 & 3 & 1 \end{bmatrix}, C = \begin{bmatrix} 1 \\ 2 \end{bmatrix}$ and $D = \begin{bmatrix} 4 & 6 & 8 \\ 5 & 7 & 9 \end{bmatrix}$, then which of the sum is defined?
- (a) $A + B$ (b) $C + D$ (c) $B + C$ (d) $B + D$
- O (v) If $\begin{bmatrix} 1 & 2 \\ -2 & -b \end{bmatrix} + \begin{bmatrix} 0 \\ 3 \end{bmatrix} = \begin{bmatrix} 5 & 6 \\ 1 & 0 \end{bmatrix}$, then $a^2 + b^2$ is equal to
- (a) 20^{-1} (b) 22 (c) 12 (d) 10

H Mathematics Paper 1 Answer Booklet

Roman Wölfel



H Mathematics Paper 1 Answer Booklet:

APS-PGT Maths Exam PDF-Mathematics Subject Only PDF eBook By Chandresh Agrawal Chandresh Agrawal, Nandini Books, 2025-03-15 SGN The APS PGT Maths Exam PDF Army Public School PGT Mathematics Exam Mathematics Subject Only PDF eBook Covers Objective Questions With Answers **Computer (ENGLISH)**, 2025-12-01 Chapter wise Question Bank for 2025 26 Aligned with NEP 2020 and UP Board s Latest Curriculum Exam Pattern Marks Distribution **IB Math Analysis & Approaches HL: 300 Practice Questions With Answers & Solutions** Chandresh Agrawal, Nandini Books, Quick Product Details Format High Resolution Print Optimized PDF Question Bank 300 Solved Multiple Choice Questions MCQs Structure 10 Full Length Mock Exam Papers Target Exams IB Math AA HL AP Calculus A Level Further Maths Special Feature Comprehensive Step by Step Solutions Included Overview This ebook is an essential preparatory tool for students enrolled in the International Baccalaureate IB Diploma Programme specifically targeting the Mathematics Analysis and Approaches AA Higher Level HL track With 300 high difficulty Multiple Choice Questions MCQs organized into 10 full length Mock Exams this resource bridges the gap between classroom theory and the rigorous problem solving required for the final IB assessment Every mock paper is paired with a Response Sheet to simulate exam day pressure followed by a complete Answer Key and exhaustive step by step solutions for most questions making it a powerful self tuition asset The DIY Feature Personalized Exam Prep Designed for the modern Do It Yourself student this ebook encourages a tactile approach to learning Print Ready Design The PDF is optimized for clear high contrast printing at home or a local professional print shop Create Your Own Workbook Simply download the file print the desired mock sets and get them spiral bound for a portable physical study guide Authentic Practice By using the included Response Sheets to write your answers by hand you build the muscle memory and mental stamina needed for a multi hour IB examination What is Covered The 300 questions are meticulously aligned with the most challenging sub topics of the AA HL Syllabus Topic 1 Number and Algebra Extensive coverage of complex numbers Cartesian polar and exponential forms modulus and argument properties binomial theorem applications and quadratic logarithmic equations Topic 3 Geometry and Trigonometry In depth problems on 3D vectors dot and cross products lines and planes in space circular functions and inverse trigonometric identities Topic 5 Calculus Advanced differentiation composite and second order derivatives complex indefinite and definite integration including trigonometric and logarithmic substitutions and limits Topic 4 Statistics and Probability Combinatorial analysis and probability problems involving selection from discrete sets What is NOT Covered Topic 2 Functions While coordinate geometry and basic domain range are covered there is limited focus on advanced transformation of complex functions or specialized graph sketching techniques Formal Proofs The content focuses on calculation and conceptual application via MCQs it does not include formal proof by induction or Euclidean geometric proofs Applied Mechanics Does not include physics integrated calculus kinematics dynamics beyond basic rate of change **Higher Maths: Practice Papers for SQA**

Exams Robert Barclay,2017-07-31 Practise for your SQA exams with three specially commissioned Hodder Gibson Practice Exam Papers Practise with model papers written and checked by experienced markers and examiners Get extra advice with specially written study skills guidance sections Gain vital extra marks and avoid common mistakes with examiner tips

Disha 14 Year-wise AISSEE Class 9 All India SAINIK School Entrance Exam Previous Year Solved Papers (2025 - 2011) | Errorless & Authentic Sainik School PYQ Book| 5th Edition Disha Experts,2025-09-02 The updated 5th edition of the book 14 Year wise AISSEE Class 9 All India SAINIK School Entrance Exam Previous Year Solved Papers 2011 25 provides the latest 2025 paper with detailed Solutions In all a total of 14 papers from 14 Years 2011 to 2025 are provided The detailed solutions to each question is provided immediately after the papers 100% Errorless solutions provided In all a total of 1950 previous year quality questions with explanation The benefit of a Year wise book is that it can be used as a Mock Test practice paper book *Combo (set of 2 Books) Study Package for AISSEE Class 9 All India SAINIK School Entrance Exam - Guide + Previous Year Solved Papers + Practice Sets - 4th Edition* Disha Experts Disha Experts, Book 1 Guide to AISSEE Class 9 All India SAINIK School Entrance Exam with 2 Practice Sets provides exhaustive theory with examples followed by exercise in each chapter It also provides past year Questions papers included chapter wise There are 100 chapters in all The book provides 2900 questions for practice Answers to most of the questions are provided The book also provides 2 Practice Sets on the latest pattern of the exam at the end of the book Book 2 13 Year wise Solved Papers for Class 9 All India SAINIK School Entrance Exam AISSEE covers the YEAR WISE AISSEE Previous Year Papers 2011 to 2024 The detailed solution to each question is provided immediately after the papers 11 Year Solved Papers for Class 9 All India SAINIK School Entrance Exam (AISSEE) - 2nd Edition Disha Experts,2022-05-11 11 Year Solved Papers for Class 9 All India SAINIK School Entrance Exam AISSEE covers the YEAR WISE AISSEE Papers 2011 to 2022 In all a total of 11 papers from 2015 to 2022 The detailed solutions to each question is provided immediately after the papers 100% Errorless solutions provided 1500 previous year quality questions with explanation **13 Year-wise AISSEE Class 9 All India SAINIK School Entrance Exam Previous Year Solved Papers (2011 - 24) - 4th Edition** Disha Experts, The updated 4th edition of the book 13 Year wise AISSEE Class 9 All India SAINIK School Entrance Exam Previous Year Solved Papers 2011 24 provides the latest 2024 paper with detailed Solutions In all a total of 13 papers from 2011 to 2024 are provided The detailed solutions to each question is provided immediately after the papers 100% Errorless solutions provided 1800 previous year quality questions with explanation The benefit of a Year wise book is that it can be used as a Mock Test practice paper book Canadian Books in Print ,1997 *The English Catalogue of Books [annual].* ,1909 Vols 1898 include a directory of publishers El-Hi Textbooks and Serials in Print ,2006 **The Publishers' Trade List Annual** ,1899 *The English Catalogue of Books [annual].* Sampson Low,1914 Vols for 1898 1968 include a directory of publishers **Collins 11+ - 11+ Maths Complete Revision, Practice and Assessment for CEM** Collins 11+,2020-09-01 Exam Board CEM Level Subject 11 Maths

Bookseller and the Stationery Trades' Journal ,1888 Educational Times ,1912 **Journal of Education and School World** ,1917 **Readers' Guide to Periodical Literature** ,1910 *Readers' Guide to Periodical Literature* Anna Lorraine Guthrie,Bertha Tannehill,Neltje Marie Tannehill Shimer,1910 **The Educational Times, and Journal of the College of Preceptors** ,1915

Delve into the emotional tapestry woven by Emotional Journey with in Experience **H Mathematics Paper 1 Answer Booklet** . This ebook, available for download in a PDF format (Download in PDF: *), is more than just words on a page; itis a journey of connection and profound emotion. Immerse yourself in narratives that tug at your heartstrings. Download now to experience the pulse of each page and let your emotions run wild.

https://db1.greenfirefarms.com/public/browse/fetch.php/grade_12_caps_mathematics_study_s.pdf

Table of Contents H Mathematics Paper 1 Answer Booklet

1. Understanding the eBook H Mathematics Paper 1 Answer Booklet
 - The Rise of Digital Reading H Mathematics Paper 1 Answer Booklet
 - Advantages of eBooks Over Traditional Books
2. Identifying H Mathematics Paper 1 Answer Booklet
 - 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 H Mathematics Paper 1 Answer Booklet
 - User-Friendly Interface
4. Exploring eBook Recommendations from H Mathematics Paper 1 Answer Booklet
 - Personalized Recommendations
 - H Mathematics Paper 1 Answer Booklet User Reviews and Ratings
 - H Mathematics Paper 1 Answer Booklet and Bestseller Lists
5. Accessing H Mathematics Paper 1 Answer Booklet Free and Paid eBooks
 - H Mathematics Paper 1 Answer Booklet Public Domain eBooks
 - H Mathematics Paper 1 Answer Booklet eBook Subscription Services
 - H Mathematics Paper 1 Answer Booklet Budget-Friendly Options

6. Navigating H Mathematics Paper 1 Answer Booklet eBook Formats
 - ePub, PDF, MOBI, and More
 - H Mathematics Paper 1 Answer Booklet Compatibility with Devices
 - H Mathematics Paper 1 Answer Booklet Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of H Mathematics Paper 1 Answer Booklet
 - Highlighting and Note-Taking H Mathematics Paper 1 Answer Booklet
 - Interactive Elements H Mathematics Paper 1 Answer Booklet
8. Staying Engaged with H Mathematics Paper 1 Answer Booklet
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers H Mathematics Paper 1 Answer Booklet
9. Balancing eBooks and Physical Books H Mathematics Paper 1 Answer Booklet
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection H Mathematics Paper 1 Answer Booklet
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine H Mathematics Paper 1 Answer Booklet
 - Setting Reading Goals H Mathematics Paper 1 Answer Booklet
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of H Mathematics Paper 1 Answer Booklet
 - Fact-Checking eBook Content of H Mathematics Paper 1 Answer Booklet
 - 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

H Mathematics Paper 1 Answer Booklet Introduction

In today's digital age, the availability of H Mathematics Paper 1 Answer Booklet books and manuals for download has revolutionized the way we access information. Gone are the days of physically flipping through pages and carrying heavy textbooks or manuals. With just a few clicks, we can now access a wealth of knowledge from the comfort of our own homes or on the go. This article will explore the advantages of H Mathematics Paper 1 Answer Booklet books and manuals for download, along with some popular platforms that offer these resources. One of the significant advantages of H Mathematics Paper 1 Answer Booklet books and manuals for download is the cost-saving aspect. Traditional books and manuals can be costly, especially if you need to purchase several of them for educational or professional purposes. By accessing H Mathematics Paper 1 Answer Booklet versions, you eliminate the need to spend money on physical copies. This not only saves you money but also reduces the environmental impact associated with book production and transportation. Furthermore, H Mathematics Paper 1 Answer Booklet books and manuals for download are incredibly convenient. With just a computer or smartphone and an internet connection, you can access a vast library of resources on any subject imaginable. Whether you're a student looking for textbooks, a professional seeking industry-specific manuals, or someone interested in self-improvement, these digital resources provide an efficient and accessible means of acquiring knowledge. Moreover, PDF books and manuals offer a range of benefits compared to other digital formats. PDF files are designed to retain their formatting regardless of the device used to open them. This ensures that the content appears exactly as intended by the author, with no loss of formatting or missing graphics. Additionally, PDF files can be easily annotated, bookmarked, and searched for specific terms, making them highly practical for studying or referencing. When it comes to accessing H Mathematics Paper 1 Answer Booklet books and manuals, several platforms offer an extensive collection of resources. One such platform is Project Gutenberg, a nonprofit organization that provides over 60,000 free eBooks. These books are primarily in the public domain, meaning they can be freely distributed and downloaded. Project Gutenberg offers a wide range of classic literature, making it an excellent resource for literature enthusiasts. Another popular platform for H Mathematics Paper 1 Answer Booklet books and manuals is Open Library. Open Library is an initiative of the Internet Archive, a non-profit organization dedicated to digitizing cultural artifacts and making them accessible to the public. Open Library hosts millions of books, including both public domain works and contemporary titles. It also allows users to borrow digital copies of certain books for a limited period, similar to a library lending system. Additionally, many universities and educational institutions have their own digital libraries that provide free access to PDF books and manuals. These libraries often offer academic texts, research papers, and technical manuals, making them invaluable resources for students and researchers. Some notable examples include MIT OpenCourseWare,

which offers free access to course materials from the Massachusetts Institute of Technology, and the Digital Public Library of America, which provides a vast collection of digitized books and historical documents. In conclusion, H Mathematics Paper 1 Answer Booklet books and manuals for download have transformed the way we access information. They provide a cost-effective and convenient means of acquiring knowledge, offering the ability to access a vast library of resources at our fingertips. With platforms like Project Gutenberg, Open Library, and various digital libraries offered by educational institutions, we have access to an ever-expanding collection of books and manuals. Whether for educational, professional, or personal purposes, these digital resources serve as valuable tools for continuous learning and self-improvement. So why not take advantage of the vast world of H Mathematics Paper 1 Answer Booklet books and manuals for download and embark on your journey of knowledge?

FAQs About H Mathematics Paper 1 Answer Booklet Books

What is a H Mathematics Paper 1 Answer Booklet PDF? A PDF (Portable Document Format) is a file format developed by Adobe that preserves the layout and formatting of a document, regardless of the software, hardware, or operating system used to view or print it. **How do I create a H Mathematics Paper 1 Answer Booklet PDF?** There are several ways to create a PDF: Use software like Adobe Acrobat, Microsoft Word, or Google Docs, which often have built-in PDF creation tools. Print to PDF: Many applications and operating systems have a "Print to PDF" option that allows you to save a document as a PDF file instead of printing it on paper. Online converters: There are various online tools that can convert different file types to PDF. **How do I edit a H Mathematics Paper 1 Answer Booklet PDF?** Editing a PDF can be done with software like Adobe Acrobat, which allows direct editing of text, images, and other elements within the PDF. Some free tools, like PDFescape or Smallpdf, also offer basic editing capabilities. **How do I convert a H Mathematics Paper 1 Answer Booklet PDF to another file format?** There are multiple ways to convert a PDF to another format: Use online converters like Smallpdf, Zamzar, or Adobe Acrobats export feature to convert PDFs to formats like Word, Excel, JPEG, etc. Software like Adobe Acrobat, Microsoft Word, or other PDF editors may have options to export or save PDFs in different formats. **How do I password-protect a H Mathematics Paper 1 Answer Booklet PDF?** Most PDF editing software allows you to add password protection. In Adobe Acrobat, for instance, you can go to "File" -> "Properties" -> "Security" to set a password to restrict access or editing capabilities. Are there any free alternatives to Adobe Acrobat for working with PDFs? Yes, there are many free alternatives for working with PDFs, such as: LibreOffice: Offers PDF editing features. PDFsam: Allows splitting, merging, and editing PDFs. Foxit Reader: Provides basic PDF viewing and editing capabilities. How do I compress a PDF file? You can use online tools like Smallpdf, ILovePDF, or desktop software like Adobe Acrobat to compress PDF files without

significant quality loss. Compression reduces the file size, making it easier to share and download. Can I fill out forms in a PDF file? Yes, most PDF viewers/editors like Adobe Acrobat, Preview (on Mac), or various online tools allow you to fill out forms in PDF files by selecting text fields and entering information. Are there any restrictions when working with PDFs? Some PDFs might have restrictions set by their creator, such as password protection, editing restrictions, or print restrictions. Breaking these restrictions might require specific software or tools, which may or may not be legal depending on the circumstances and local laws.

Find H Mathematics Paper 1 Answer Booklet :

grade 12 caps mathematics study s

[gondwana university question paper](#)

[getting started with sap hana express edition](#)

[god long summer stories of faith and civil rights](#)

[guitar plans](#)

genetics and molecular biology of streptococci lactococci and enterococci

government in america 14th edition ap

[george frideric handel a music lovers guide to his life his faith the development of messiah and his other oratorios](#)

giancoli physics 5th edition

[gjeografia kl 6 test](#)

getting more stuart diamond pdf download

[glencoe world history chapter 2 bodeuxore](#)

[geography militant cultures of exploration and empire](#)

give kids a smile ucla

[god meant it for good rt kendall](#)

H Mathematics Paper 1 Answer Booklet :

A Course in Phonetics - Answers | PDF Answers to exercises in A Course in Phonetics. Chapter 1. A: (1) 1: upper lip. 2: (upper) teeth 3: alveolar ridge 34800259-a-course-in-phonetics-Answers.pdf - Answers to... Answers to exercises in A Course in Phonetics Chapter 1 A: (1) 1: upper lip ... Key is $6|3 = 63$. Report values for Leaf column in increasing order and do not ... Answers to exercises in A Course in Phonetics. Chapter 1 Answers to exercises in A Course in Phonetics ; Chapter 1 ; (1) 1:

upper lip ; 2: (upper) teeth ; 3: alveolar ridge. Chapter 2: Exercise J Chapter 2: Exercise J. Read the following passages in phonetic transcription. The first, which represents a form of British English of the kind spoken by ... A course in phonetics ladefoged 7th edition pdf answer key Dr. Johnson's research and teaching on acoustic phonetics and psycholinguistics is widely recognized. personal financial planning gitman Answers to exercises in ... Answer Key for Phonetics Exercises.docx View Answer Key for Phonetics Exercises.docx from LINGUISTIC 249 at Ivy Tech Community College, Indianapolis. Answer Key for Chapter 2 Phonetics Exercises ... Course in Phonetics Performance Exercise A Chapter 5. British English. American English. Untitled Document <http://hctv.humnet.ucla.edu/departments/> ... Phonetics Exercise Answers English Language Esl Learning Nov 29, 2023 — RELATED TO PHONETICS EXERCISE. ANSWERS ENGLISH LANGUAGE ESL. LEARNING FOR ALL AGES AND. READING LEVELS. • Go Math Answer Key • Herbalism Guide ... Phonetics Exercises—Answers, P. 1 Answer the following questions. a). What voiced consonant has the same place of articulation as [t] and the same manner of articulation as [f]? ... ATF for manual trans in a Ford Escort advice? I know some of the newer Dextron shouldnt be used in a manual trans but is it the same way with the newer Mercon? Can I run a synthetic like Amsoil ATF? The car ... Manual Transmission on a 98 ZX2 Nov 11, 2006 — Ford Escort - Manual Transmission on a 98 ZX2 - Does anyone know if Ford recommends changing the fluid in it's ZX2 model if it's a manual ... Change FORD ESCORT Gearbox Oil and Transmission Oil ... Change FORD ESCORT Gearbox Oil and Transmission Oil yourself - manuals and video tutorials. Helpful guides and tips on replacing FORD ESCORT Gearbox Oil and ... What kind of trans fluid? Nov 24, 2006 — In my 2000 Ford Escort Owners Manual, it states Mercon Auto Tranny Fluid. I have not seen anything about Dextron Mercon III. Even the ... ESCORT ZX2 PROJECT FILLING MANUAL TRANSMISSION ... How to Add Fluid to Manual Transmission Jan 18, 2010 — I have a 1999 Escort 123,750 miles. I changed the driver side axle and oil seal and lost some transmission fluid. I have been told that to add/ ... 1995 ford escort manual transmission fluid Get a free detailed estimate for a transmission fluid change in your area from KBB. ... 8.Compare 1995 Ford Escort Manual Transmission Fluid brands.8l manual ... 1997 ford escort manual trans fluid level check Get a free detailed estimate for a.To change the transmission fluid on the manual 1998 Ford Escort ZX2, drain the fluid from the drain hole near the speed ... Ford Escort Manual Transmission Fluid Low prices on Manual Transmission Fluid for your Ford Escort at Advance Auto Parts. Find aftermarket and OEM parts online or at a local store near you. Ford escort manual transission for sale The manual transmission in the Ford Escort uses transmission fluid, it is ... Get a free detailed estimate for a transmission repair and replacement in your area ... SpeakerCraft BB2125 2-Channel Amplifier It offers 125W per channel and provides stability into 2 ohms. It also features pass through outputs for cascading additional amplifiers, front-mounted left and ... Would you keep or flip this amp? - AudioKarma Feb 18, 2008 — I came across a Speakercraft BB-2125 amp on Friday at the thrift store and the thing looks brand new. I'd never heard of this brand before, but ... SpeakerCraft BB2125 2 Channel Power Amplifier The SpeakerCraft BB2125 amplifier with a RMS output of 125 Watts

per Channel plays loud music. This 2 Ohm stable SpeakerCraft Amplifier prevents electrifying of ... SpeakerCraft BB2125 2-Channel Home Theater Amplifier Big Bang The BB2125 contains the excellent performance and reliability that SpeakerCraft products have been recognized for. For best performance please carefully read ... SpeakerCraft BB2125 2-Channel Amplifier SpeakerCraft BB2125 2-Channel Amplifier ; Item Number. 125550051379 ; Brand. SpeakerCraft ; Type. Power Amplifier ; Accurate description. 4.8 ; Reasonable shipping ... SpeakerCraft BB2125 Two Channel Amplifier A/V ... SpeakerCraft BB2125 Two Channel Amplifier A/V Preamplifier user reviews : 2 out of 5 - 1 reviews - audioreview.com. SpeakerCraft BB2125 Power Amp~125 Watts Per Channel ... SpeakerCraft BB2125 Highlights 125W Per Channel RMS 5-Way Binding Posts 12V Control Output Allows Daisy Chaining Stability Into 2 Ohm Load 3U High Multiple ... Speakercraft BB2125 2-Channel Power Amplifier SpeakerCraft BB2125 2-Channel Power Amplifier SpeakerCraft BB2125 2-Channel Power Amplifier List Price : \$1,059. 00 Price : \$969. 99 Average Customer Rating ... Speakercraft BB2125 A / B Speakers : r/BudgetAudiophile Can anyone tell me how to swap between Speaker A / B with this amp? I can't find any information online. And the only buttons I've found on ...