

ASYMPTOTIC THEORY FOR ECONOMETRICIANS

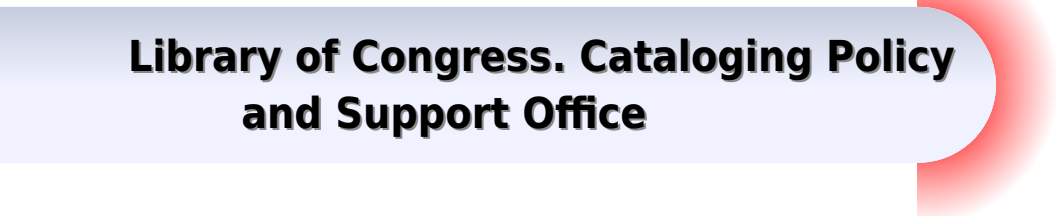
Revised Edition

Halbert White



Asymptotic Theory For Econometricians

**Library of Congress. Cataloging Policy
and Support Office**



Asymptotic Theory For Econometricians:

The Engaging Realm of Kindle Books: A Detailed Guide Revealing the Pros of E-book Books: A World of Convenience and Flexibility E-book books, with their inherent portability and ease of access, have liberated readers from the constraints of hardcopy books. Gone are the days of carrying bulky novels or carefully searching for specific titles in bookstores. Kindle devices, sleek and portable, effortlessly store an extensive library of books, allowing readers to indulge in their favorite reads anytime, anywhere. Whether commuting on a bustling train, relaxing on a sun-kissed beach, or simply cozying up in bed, E-book books provide an unparalleled level of ease. A Literary World Unfolded: Exploring the Wide Array of Kindle Asymptotic Theory For Econometricians Asymptotic Theory For Econometricians The Kindle Store, a digital treasure trove of literary gems, boasts an wide collection of books spanning diverse genres, catering to every readers taste and preference. From gripping fiction and mind-stimulating non-fiction to classic classics and contemporary bestsellers, the E-book Shop offers an exceptional abundance of titles to explore. Whether looking for escape through immersive tales of fantasy and exploration, delving into the depths of past narratives, or expanding ones understanding with insightful works of science and philosophical, the E-book Shop provides a doorway to a bookish world brimming with limitless possibilities. A Revolutionary Factor in the Bookish Scene: The Persistent Influence of E-book Books Asymptotic Theory For Econometricians The advent of E-book books has undoubtedly reshaped the literary landscape, introducing a model shift in the way books are released, distributed, and read. Traditional publication houses have embraced the digital revolution, adapting their strategies to accommodate the growing need for e-books. This has led to a surge in the availability of E-book titles, ensuring that readers have entry to a wide array of bookish works at their fingers. Moreover, Kindle books have equalized access to books, breaking down geographical limits and providing readers worldwide with equal opportunities to engage with the written word. Regardless of their location or socioeconomic background, individuals can now immerse themselves in the captivating world of books, fostering a global community of readers. Conclusion: Embracing the Kindle Experience Asymptotic Theory For Econometricians E-book books Asymptotic Theory For Econometricians, with their inherent ease, versatility, and wide array of titles, have unquestionably transformed the way we experience literature. They offer readers the freedom to discover the limitless realm of written expression, anytime, everywhere. As we continue to navigate the ever-evolving online landscape, E-book books stand as testament to the enduring power of storytelling, ensuring that the joy of reading remains accessible to all.

https://recruitmentslovakia.sk/files/book-search/default.aspx/raise_the_issues_3rd_edition_key_answer.pdf

Table of Contents Asymptotic Theory For Econometricians

1. Understanding the eBook Asymptotic Theory For Econometricians
 - The Rise of Digital Reading Asymptotic Theory For Econometricians
 - Advantages of eBooks Over Traditional Books
2. Identifying Asymptotic Theory For Econometricians
 - 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 Asymptotic Theory For Econometricians
 - User-Friendly Interface
4. Exploring eBook Recommendations from Asymptotic Theory For Econometricians
 - Personalized Recommendations
 - Asymptotic Theory For Econometricians User Reviews and Ratings
 - Asymptotic Theory For Econometricians and Bestseller Lists
5. Accessing Asymptotic Theory For Econometricians Free and Paid eBooks
 - Asymptotic Theory For Econometricians Public Domain eBooks
 - Asymptotic Theory For Econometricians eBook Subscription Services
 - Asymptotic Theory For Econometricians Budget-Friendly Options
6. Navigating Asymptotic Theory For Econometricians eBook Formats
 - ePub, PDF, MOBI, and More
 - Asymptotic Theory For Econometricians Compatibility with Devices
 - Asymptotic Theory For Econometricians Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Asymptotic Theory For Econometricians
 - Highlighting and Note-Taking Asymptotic Theory For Econometricians
 - Interactive Elements Asymptotic Theory For Econometricians
8. Staying Engaged with Asymptotic Theory For Econometricians

- Joining Online Reading Communities
- Participating in Virtual Book Clubs
- Following Authors and Publishers Asymptotic Theory For Econometricians
- 9. Balancing eBooks and Physical Books Asymptotic Theory For Econometricians
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Asymptotic Theory For Econometricians
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Asymptotic Theory For Econometricians
 - Setting Reading Goals Asymptotic Theory For Econometricians
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Asymptotic Theory For Econometricians
 - Fact-Checking eBook Content of Asymptotic Theory For Econometricians
 - 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

Asymptotic Theory For Econometricians Introduction

In the digital age, access to information has become easier than ever before. The ability to download Asymptotic Theory For Econometricians has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download Asymptotic Theory For Econometricians has opened up a world of possibilities. Downloading Asymptotic Theory For Econometricians provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a

button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading Asymptotic Theory For Econometricians has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download Asymptotic Theory For Econometricians. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading Asymptotic Theory For Econometricians. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading Asymptotic Theory For Econometricians, users should also consider the potential security risks associated with online platforms. Malicious actors may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download Asymptotic Theory For Econometricians has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available and embark on a journey of continuous learning and intellectual growth.

FAQs About Asymptotic Theory For Econometricians Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read

eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Asymptotic Theory For Econometricians is one of the best book in our library for free trial. We provide copy of Asymptotic Theory For Econometricians in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Asymptotic Theory For Econometricians. Where to download Asymptotic Theory For Econometricians online for free? Are you looking for Asymptotic Theory For Econometricians PDF? This is definitely going to save you time and cash in something you should think about.

Find Asymptotic Theory For Econometricians :

~~raise the issues 3rd edition key answer~~

improved village technology for womens activities a manual for west africa

83 honda cbx 650 servise manual

operating instructions linde forklift truck

in search of ancient mysteries

who fears death

83 honda cb450 manual

garden colors sb

83 honda cbx 650 owners manual

~~exposition of the epistle to the romans~~

user manual sym jet 100

wiring for 2 8 turbo diesel rodeo

~~year 5 cats test sample questions~~

1997 ford e 350 73 repair manual

~~methode dauto hypnose~~

Asymptotic Theory For Econometricians :

how to gain a sustainable competitive advantage meltwater - Feb 10 2022

web sep 9 2020 based on my experiences with both i propose five tactics companies of any size can model to differentiate themselves from their competitors 1 review sdgs

3 main types of sustainable competitive advantages - Jul 18 2022

web feb 12 2020 in his book competitive advantage creating and sustaining superior performance 1985 he outlined three key sources of competitive advantage cost

strategy building and sustaining competitive advantage - Sep 19 2022

web mar 6 2021 download competitive advantage creating and sustaining superior performance by michael e porter in pdf epub format complete free brief summary of

creating and sustaining a competitive advantage research world - Dec 11 2021

strategy creating and sustaining competitive advantage - Jul 30 2023

web may 24 2017 professor michael e porter harvard business school mumbai may 24th 2017 this presentation draws on ideas from professor porter s books and articles in

sustainable competitive advantages onstrategy - Jan 12 2022

pdf epub competitive advantage creating and sustaining - Jun 16 2022

web jan 1 1985 the fundamental basis of above average performance in the long run is sustainable competitive advantage though a firm can have a myriad of strengths

competitive advantage creating and sustaining superior - Jan 24 2023

web nov 29 2021 especially his books competitive advantage creating and sustaining superior performance the competitive advantage of nations and competitive

competitive advantage creating and sustaining superior - Apr 26 2023

web competitive advantage introduces a whole new way of understanding what a firm does porter s groundbreaking concept of the value chain disaggregates a company into

towards an understanding of the sources of sustainable - Apr 14 2022

web feb 4 2022 get the free guide and canvas to build a solid growth strategy sustainable competitive advantages answer the question what are we best at in our market the

competitive advantage creating and sustaining superior - Mar 14 2022

web nov 29 2022 i sat down with amy cashman executive managing director insights division uk ireland kantar to discuss how to identify opportunities to build

sustainable competitive advantage definition - Nov 09 2021

transforming sustainability into a competitive advantage forbes - Oct 09 2021

creating and sustaining competitive advantage springer - Dec 23 2022

web it takes a deep dive into all aspects of successful strategy and its execution scoping the competitive landscape choosing where and where not to compete identifying

sustainable competitive advantage stratechi com - May 16 2022

web mar 15 2023 it is part of a strong competitive intelligence strategy some competitive advantages can be considered sustainable advantages that sustain a company s

pdf competitive advantage creating and - Jun 28 2023

web feb 22 2017 included materials this note gives students a systematic and comprehensive framework for analyzing and managing competitive advantage it pays

creating and sustaining a competitive advantage over time - Aug 19 2022

web the sources of sustainable competitive advantages include brand loyalty is driven by the strength of the brand disney design apple products gillette and loyalty

competitive advantage creating and sustaining superior - Mar 26 2023

web jun 1 1998 free press jun 1 1998 business economics 592 pages the essential complement to the pathbreaking book competitive strategy michael e porter s

building sustainable competitive advantage bcg - Nov 21 2022

web jun 29 2020 introduction this chapter firstly discusses the fundamentals of competitive advantage and how a company can create and sustain it it then focuses on how to deal

competitive advantage creating and sustaining - Aug 31 2023

web jun 30 2008 now beyond its eleventh printing and translated into twelve languages michael porter s the competitive advantage of nations has changed completely our

creating and sustaining competitive advantage harvard - May 28 2023

web jun 1 1998 that the phrases competitive advantage and sustainable competitive advantage have become commonplace is testimony to the power of porter s ideas

[competitive advantage springerlink](#) - Oct 21 2022

web sep 27 2023 last updated mar 22 2022 3 min read a sustainable competitive advantage sets a business apart from its competition over a long period of time it can

[pdf creating and sustaining competitive advantage](#) - Feb 22 2023

web sep 7 2021 just as beyond great companies are refining their global game so must governments build a competitive foundation in a world where businesses must

[the cambridge history of warfare higher education from cambridge](#) - Aug 16 2023

web the new edition of the cambridge history of warfare written and updated by a team of eight distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the twenty first century

[the cambridge history of warfare google books](#) - Apr 12 2023

web jun 4 2020 the new edition of the cambridge history of warfare written and updated by a team of eight distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the

the cambridge history of warfare 2nd edition amazon com - Mar 11 2023

web jul 16 2020 the new edition of the cambridge history of warfare written and updated by a team of eight distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the

cambridge history warfare 2nd edition military history cambridge - Jul 15 2023

web the new edition of the cambridge history of warfare written and updated by a team of eight distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the twenty first century

[the cambridge illustrated history of warfare google books](#) - Sep 05 2022

web sep 29 2008 geoffrey parker cambridge university press sep 29 2008 history 440 pages now available in a revised and updated version the cambridge illustrated history of warfare provides a unique account of western warfare from antiquity to the present day

[the western way of war cambridge university press](#) - Jan 29 2022

web introduction the western way of war geoffrey parker every culture develops its own way of war societies where land is plentiful but manpower is scarce tend to favour a

the cambridge illustrated history of warfare - Aug 04 2022

web the new edition of the cambridge illustrated history of warfare written and updated by a team of nine distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the twenty

cambridge history of war - Jun 14 2023

web volume iv of the cambridge history of war offers a definitive new account of war in the most destructive period in human history opening with the massive conflicts that erupted in the mid nineteenth century in the us asia and europe leading historians trace the global evolution of warfare through the age of mass the age of machine and

[the cambridge history of warfare amazon com](#) - Oct 06 2022

web jun 4 2020 the new edition of the cambridge history of warfare written and updated by a team of eight distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the

the cambridge history of war - Mar 31 2022

web it includes all of the well known themes of european warfare from the migrations of the germanic peoples and the vikings through the reconquista the crusades and the age of chivalry to the development of state controlled gunpowder wielding armies and the urban militias of the later middle ages yet its scope is world wide ranging across

[the cambridge history of warfare by geoffrey parker goodreads](#) - Feb 27 2022

web jun 4 2020 3 97 76 ratings8 reviews the new edition of the cambridge history of warfare written and updated by a team of eight distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern

[the cambridge history of cambridge university press](#) - Dec 28 2021

web the cambridge history of introduction the western way of war geoffrey parker every culture develops its own way of war societies where land is plentiful but manpower scarce tend to favour a ritualized conflict in which only a few champions actually fight but their fate decides that of everyone

the cambridge history of warfare google books - May 13 2023

web aug 29 2005 the cambridge history of warfare geoffrey parker cambridge university press aug 29 2005 history 515 pages a compelling subject war is common to almost all known societies and almost

[the cambridge history of warfare amazon com](#) - Feb 10 2023

web nov 3 2005 the combined effort of seven leading experts this book treats the history of all aspects of the subject the development of warfare on land seas and air weapons and technology strategy and defense discipline and intelligence mercenaries and standing armies cavalry and infantry chivalry and blitzkrieg guerrilla assault and nuclear warfare

the cambridge illustrated history of warfare fifteen eighty four - Dec 08 2022

web in every bookshop in the english speaking world works on military history occupy at least half of the shelves devoted to history i helped to create two of the titles on those shelves as editor of the cambridge illustrated history of warfare and the cambridge history of

cambridge university press edited by geoffrey parker more - Jul 03 2022

web the new edition of the cambridge history of warfare written and updated by a team of nine distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the wars of the twenty first century

x nde i cambridge university press assessment - Jun 02 2022

web cambridge university press 978 1 107 18156 4 the cambridge illustrated history of warfare 2nd edition edited by geoffrey parker index more information

the cambridge history of warfare cambridge - Nov 07 2022

web the cambridge history of warfare edited by geoffrey parker p cm includes bibliographical references and index rev ed of the cambridge illustrated history of warfare 1995 isbn 0 521 85359 1 isbn 0 521 61895 9 military art and science history 2 war and society 3 war economic aspects 4 civilization western i

the cambridge illustrated history of warfare cambridge illustrated - Jan 09 2023

web aug 5 2021 the new edition of the cambridge illustrated history of warfare written and updated by a team of nine distinguished military historians examines how war was waged by western powers across a sweeping timeframe beginning with classical greece and rome moving through the middle ages and the early modern period down to the

the cambridge illustrated history of warfare - May 01 2022

web the book treats the history of all aspects of the subject the development of warfare on land sea and air weapons and technology strategy and defense discipline and intelligence mercenaries and standing armies cavalry and infantry chivalry and blitzkrieg guerilla assault and nuclear arsenals

parametric and nonparametric demystifying the terms lehua oca - Oct 29 2022

web 4 parametric and nonparametric demystifying the terms 2021 04 03 finally the fifth part presents designs for causal inference with an overview of the research designs commonly used in epidemiology statistics and causality methods for applied empirical research also includes new statistical methodologies and approaches to causal

computation free full text determination of the mdpi - Jul 26 2022

web nov 3 2023 this article is devoted to methods of processing random processes this task becomes particularly relevant in cases where the random process is broadband and non stationary then the measurement of a random process can be

associated with an assessment of its probabilistic characteristics very often a non stationary broadband

biostats 640 introduction to nonparametrics umass - May 04 2023

web download adobe reader 1 biostats 640 fall 2023 1 1 video source brown helen roslin institute university of edinburgh

choosing between parametric and nonparametrics video 6 00 1 2 source tanya hoskin mayo clinic parametric and

nonparametric demystifying the terms pdf 5 pp 1 3 lecture notes fall 2023

difference between parametric and nonparametric - Nov 29 2022

web feb 14 2020 a nonparametric test is used when the tested population isn't entirely known and therefore the examined parameters are unknown as well additionally while the parametric test uses mean values as its results the nonparametric test takes the median and is therefore usually utilized when the original hypothesis doesn't fit the data

parametric and nonparametric demystifying the terms mayo - Oct 09 2023

web definitions if you've ever discussed an analysis plan with a statistician you've probably heard the term nonparametric but may not have understood what it means parametric and nonparametric are two broad classifications of statistical procedures the handbook of nonparametric statistics 1 from 1962 p 2 says

parametric and non parametric tests deranged physiology - Feb 01 2023

web apr 19 2017 non parametric tests description of non parametric tests non parametric tests make no assumptions about the distribution of the data if the assumptions for a parametric test are not met eg the distribution has a lot of skew in it one may be able to use an analogous non parametric tests

parametric and nonparametric demystifying the terms docslib - Jun 05 2023

web parametric and nonparametric demystifying the terms 1 nonparametric statistics adapted from j hurley notes non parametric tests mann whitney u test rank based and nonparametric methods a class of nonparametric tests for the two sample location problem 12 nonparametric statistics springer texts in statistics

parametric and nonparametric demystifying the terms 2023 - Apr 22 2022

web parametric and nonparametric demystifying the terms 5 5 methods arranged in alphabetical order these range from simple terms such as mean and median to advanced terms such as multilevel models and generalized estimating equations synonyms or alternative phrases for each topic covered are listed with a reference to the topic

parametric and nonparametric demystifying the terms - Jun 24 2022

web explores non parametric estimation and testing as well as parametric techniques methods are illustrated using case studies from a variety of environmental application areas looks at trends in all aspects of a process including mean percentiles and extremes supported by an accompanying website featuring datasets and r code the book is

parametric and nonparametric demystifying the terms 2022 - Sep 27 2022

web 4 parametric and nonparametric demystifying the terms 2022 04 04 hypothesis even if it is false when the data set involves ranks or measured in ordinal scale then non parametric tests are useful and easy to construct than parametric tests the book uses open source r statistical software to carry out different non parametric statistical

[parametric and nonparametric demystifying the terms 2022](#) - Dec 31 2022

web 4 parametric and nonparametric demystifying the terms 2020 10 16 tool or as a reference for researchers the book is rich in examples and includes a glossary easy to follow diagrams and tables to help readers become more familiar with the language and controversies in this evolving area dagstat 2022 oxford university press this book

[pdf differences and similarities between parametric and non](#) - Apr 03 2023

web parametric and nonparametric demystifying the terms a statistician in the mayo clinic department of health sciences research who provides consultations through the mayo clinic ctsa berd resource robson c 1994

parametric and nonparametric demystifying the terms - Sep 08 2023

web parametric and nonparametric demystifying the terms resource type non parametric methods description short 5 page document from a mayo clinic statistician providing a clear description of non parametric testing compared to parametric testing link parametric and nonparametric demystifying the terms

[parametric and nonparametric demystifying the terms](#) - Jul 06 2023

web parametric and nonparametric are two broad classifications of statistical procedures the handbook of nonparametric statistics 1 from 1962 p 2 says a precise and universally acceptable definition of the term nonparametric is not presently available

parametric and nonparametric demystifying the terms mayo - Mar 02 2023

web oct 22 2009 a statistic estimates a parameter parametric statistical procedures rely on assumptions about the shape of the distribution i e assume a normal distribution in the underlying population and about the form or parameters i e means and standard deviations of the assumed distribution

ebook parametric and nonparametric demystifying the terms - Aug 07 2023

web parametric and nonparametric demystifying the terms bayesian nonparametrics via neural networks jan 29 2021

bayesian nonparametrics via neural networks is the first book to focus on neural networks in the context of nonparametric regression and classification working within the bayesian paradigm its goal

doc 20408960 pdf parametric and nonparametric demystifying the terms - Feb 18 2022

web parametric and nonparametric are two broad classifications of statistical procedures the handbook of nonparametric statistics 1 from 1962 p 2 says a precise and universally acceptable definition of the term nonparametric is not presently available

parametric and nonparametric demystifying the terms - May 24 2022

web parametric and nonparametric demystifying the terms free april 14th 2018 parametric and nonparametric demystifying the terms by tanya hoskin a statistician in the mayo c1288108 this file you can free download and review differences and similarities between parametric and non may 13th 2018 differences and similarities between

difference between parametric and non parametric test vedantu - Aug 27 2022

web nov 4 2023 also the non parametric test is a type of hypothesis test that is not dependent on any underlying hypothesis in the non parametric test the test depends on the value of the median this method of testing is also known as distribution free testing test values are found based on the ordinal or the nominal level

parametric and nonparametric demystifying the terms - Mar 22 2022

web parametric and nonparametric demystifying the terms 3 3 research focuses on the most up to date developments in statistical methods in respect to causality illustrating the properties of statistical methods to theories of causality the book features a summary of the latest developments in methods for statistical analysis of causality hypotheses