



Basic principles of forensic science for an introductory overview course

## OVERVIEW

### Key Concepts of Forensic Science

- Application of a scientific method, tool, or technique to aid an investigation or judicial proceeding
- Used to support or refute hypotheses about how an event occurred
- Results integrated into the investigation, part of a larger story
- Many subdisciplines

#### Forensic laboratory



#### Medical examiner



### Characteristics of Forensic Data and Results

- Specific and complete, including caveats or limitations
- Reproducible; another forensic scientist provided with the same evidence and information should obtain the same results
- Falsifiable; results must be stated such that they can be tested for accuracy and completeness. A specific DNA profile or a specific blood alcohol measurement is falsifiable because the results can be confirmed by scientific testing
- Relevant to the case at hand. The analysis of a bloodstain sample would be done to obtain the DNA profile; cholesterol level in the blood is irrelevant

### Selected Historical Figures

- **Alphonse Bertillon (1853–1914; French)**
  - Used measurements of physical features for identification called **anthropometry** or **Bertillonage**. Replaced by fingerprinting
- **Francis Galton (1822–1911; English)**
  - Fingerprints
- **Alexander Gottler (1882–1968; American)**
  - Forensic toxicology. Performed chemical analysis for the New York Office of Chief Medical Examiner (OCME)
- **Calvin Goddard (1891–1955; American)**
  - Comparison microscopy and firearms
- **Hans Gross (1847–1915; Austrian)**
  - Coined the term **criminalistics**

- **Alec Jeffreys (1950–; English)**
  - Developed early DNA testing methods
  - First to use DNA typing in a criminal matter (Colin Pitchfork case)
- **Paul Kirk (1902–1970; American)**
  - Generalist and educator
- **Edmond Locard (1877–1966; French)**
  - Trace evidence. Opened an early forensic laboratory
  - Credited for Locard's Exchange Principle, paraphrased as "every contact leaves a trace"
- **Charles Norris (1867–1935; American)**
  - Physician. Early head of the OCME
- **Mathias Orfila (1787–1853; Spanish)**
  - Worked in Italy and France. Forensic toxicologist and educator
  - Utilized the Marsh test for arsenic in the Lufarge case
- **Bernard Spilsbury (1877–1947; English)**
  - Physician and forensic pathologist

### Bias and Human Error

- **Bias** can cause results of a forensic analysis to be influenced by factors other than evidence and testing results
- Usually unintended and unconscious
- Can be caused by **contextual information** irrelevant to the case
- **Confirmation bias** can occur if a specific result is anticipated or expected
- Prosecutorial bias/defense bias favors a specific side in the dispute

### Interface with the US Legal System

#### US legal system

- Legal system designed to settle disputes
- **Adversarial**: based on comparing competing arguments
- Criminal cases
  - Accused/defendant vs. government (local/state/federal)
  - Prosecution vs. defense
  - **Burden of proof** on prosecution
  - Standard of proof: beyond a reasonable doubt
- Civil cases
  - Individual vs. individual, corporations, companies, etc.
  - Plaintiff vs. defense

### Quality assurance/quality control (QA/QC)

- Practices and procedures used to ensure that forensic data are relevant and trustworthy
- **Cradle-to-grave process**—from evidence creation to final disposition
- Forensic laboratories can be **accredited**
- Analysts may be **certified** in some disciplines

- Burden of proof on prosecution
- Standard of proof: preponderance of evidence
- **Jurisdiction**: the entity empowered to hear a case—local (town, city, county), state, and federal
- Decision rendered by **trier-of-fact** (judge or jury)
- Rules on precedent—rulings by previous courts

#### US Rules of Evidence

- Process to allow evidence to be presented in a legal proceeding
- Evidence is admissible if it meets **admissibility standards**
- Applies to forensic results and data
- Admissibility standards vary across jurisdictions
- **Frye standard**
  - Informally called **general acceptance** admissibility standard
  - 1923 ruling
  - Decision to reject admission of polygraph (lie detector) test
  - Court ruled that to admit new type of test, it must have been accepted within that scientific discipline
- **Federal Rules of Evidence**
  - Congressionally enacted 1975
  - Frequently updated
  - Applies to federal jurisdictions
  - Adopted by other jurisdictions
  - Guidelines for expert testimony
- **Daubert standard**
  - Informally called **gatekeeper standard**
  - 1993 ruling in civil case
  - Trial judge to make admissibility decision; judge as **gatekeeper**
  - Ruling provided guidelines for making this decision
  - Included general acceptance, validation of method, standards, limitations, and potential errors
  - Part of **Daubert trilogy** of cases
- **Joiner decision**
  - Second of Daubert trilogy
  - 1997 ruling in civil case
  - Scientific evidence must be directly relevant
- **Kumho decision**
  - Third case of Daubert trilogy
  - 1999 ruling in civil case
  - Extended definition of expert beyond traditional sciences

- Methods created by **standard operating procedure (SOP)**
- **Traceability**: ability to trace result directly to nationally/internationally accepted standard
- **Control samples** analyzed with evidence
- Results reviewed by colleagues (**peer review**)
- Data reviewed and confirmed

### Laboratory accreditation



# Forensic Science Unit Study Guide

**G Orfield**



**Forensic Science Unit Study Guide:**

Yeah, reviewing a book **Forensic Science Unit Study Guide** could accumulate your close connections listings. This is just one of the solutions for you to be successful. As understood, capability does not suggest that you have fantastic points.

Comprehending as well as covenant even more than extra will pay for each success. next-door to, the publication as with ease as insight of this Forensic Science Unit Study Guide can be taken as with ease as picked to act.

<https://media.cfan.org/results/virtual-library/default.aspx/Mathematics%20Grade%2011%20September.pdf>

## **Table of Contents Forensic Science Unit Study Guide**

1. Understanding the eBook Forensic Science Unit Study Guide
  - The Rise of Digital Reading Forensic Science Unit Study Guide
  - Advantages of eBooks Over Traditional Books
2. Identifying Forensic Science Unit Study Guide
  - 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 Forensic Science Unit Study Guide
  - User-Friendly Interface
4. Exploring eBook Recommendations from Forensic Science Unit Study Guide
  - Personalized Recommendations
  - Forensic Science Unit Study Guide User Reviews and Ratings
  - Forensic Science Unit Study Guide and Bestseller Lists
5. Accessing Forensic Science Unit Study Guide Free and Paid eBooks
  - Forensic Science Unit Study Guide Public Domain eBooks
  - Forensic Science Unit Study Guide eBook Subscription Services

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

### **Forensic Science Unit Study Guide Introduction**

In the digital age, access to information has become easier than ever before. The ability to download Forensic Science Unit Study Guide 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 Forensic Science Unit Study Guide has opened up a world of possibilities. Downloading Forensic Science Unit Study Guide 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 Forensic Science Unit Study Guide 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 Forensic Science Unit Study Guide. 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 Forensic Science Unit Study Guide. 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 Forensic Science Unit Study Guide, 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 Forensic Science Unit Study Guide 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 Forensic Science Unit Study Guide 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. Forensic Science Unit Study Guide is one of the best book in our library for free trial. We provide copy of Forensic Science Unit Study Guide in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Forensic Science Unit Study Guide. Where to download Forensic Science Unit Study Guide online for free? Are you looking for Forensic Science Unit Study Guide PDF? This is definitely going to save you time and cash in something you should think about.

### **Find Forensic Science Unit Study Guide :**

**mathematics grade 11 september**

**mathematics p2 caps grade1november 2014 memorandum**

**mathematics memorandum grade 1march**

**mathematics p1 november memo 2014**

mathematics memo of paper 2 june exam

**mathematics paper mid year exam 2014 memo**

**mathematics final exam 2014 grade 9 practice**

mathematics 4mark scheme

mathematics memorandum for march 2014 common paper for grade 10

*mathematics p2 preparatory examination september 2014 memo*

**mathematics caps grade 11 paper 2 november 2013**

~~mathematics memorandum grade september 2013~~

~~mathematics memorandum grade 10 final exam 2014~~

**mathematics memo grade 10 november 2014**

**mathematics paper 2 grade 11 gauteng 2012 memo**

### **Forensic Science Unit Study Guide :**

**cut over management in sap projekten sap press** - Dec 07 2022

web aug 5 2023 informations sur le titre cut over management in sap projekten sap press de la série sap press avec description sommaire et vérification de la disponibilité standwithukraine book info com internationaler medieninformationsdienst

cut over management in sap projekten sap press by jürgen - Aug 03 2022

web cut over management in sap projekten cbs corporate the cutover app from natuvion sap implementation cut over plan for procurement and cut over management in sap projekten von jürgen remmert approach to cut over and go live best practices springerlink pdf a framework for cut over management

**cut over management in sap projekten planung durchführung** - Jan 08 2023

web cut over management in sap projekten planung durchführung und fallback szenarien cut over in implementierungs konsolidierungs und und checklisten zum download sap press remmert jürgen isbn 9783836213912 kostenloser versand für alle bücher mit versand und verkauf duch amazon

**cut over management in sap projekten rheinwerk verlag gmbh** - Aug 15 2023

web sap press isbn 978 3 8362 2113 9 der cut over ist ein kritischer moment geht hier etwas schief kann das neue system nicht zur nutzung freigegeben werden dieser detaillierte leitfaden zeigt ihnen alles was sie für einen erfolgreichen cut over benötigen

cut over management in sap projekten sap press pdf 2023 - Apr 30 2022

web august wilhelm scheer 2012 09 15 business process management is the basis for all initiatives like scm crm erp or business intelligence new component and internet based software architectures and web services require a solid process management to deliver the expected business success

**der autor von cut over management in sap projekten** - Apr 11 2023

web der autor von cut over management in sap projekten jürgen remmert neben seinen externen projektbezogen aufgaben

verantwortet jürgen remmert bei der cbs als beratungsleiter den bereich plm und logistik scm sowie das partnermanagement  
[cut over management in sap projekten sap press by jürgen](#) - Sep 04 2022

web jun 14 2023 by just checking out a book cut over management in sap projekten sap press by jürgen remmert moreover it is not promptly done you could believe even more nearly this life nearly the world you could swiftly obtain this cut over management in sap projekten sap press by jürgen remmert after receiving discount

[cut over management in sap projekten sap press namita sachan](#) - Jan 28 2022

web those all we meet the expense of cut over management in sap projekten sap press and numerous books collections from fictions to scientific research in any way in the course of them is this cut over management in sap projekten sap press that can be your partner advances in production management systems the path to intelligent

**cut over management in sap projekten sap press 2022** - Jul 02 2022

web getting this info acquire the cut over management in sap projekten sap press member that we manage to pay for here and check out the link you could buy lead cut over management in sap projekten sap press or acquire it as

[sap project manager s guide to sap project cutover](#) - Jun 13 2023

web oct 11 2021 cutover planning covers the cutover tasks to achieve the production cutover with the required quality outcomes and timelines cutover planning includes all aspects to execute a cutover including logistics communications key decision points continuity and contingency planning and a detail cutover project plan

**sap press cut over management amazon web services** - Nov 06 2022

web sap press cut over management amazon web services

**cut over management in sap projekten sap press pdf** - Dec 27 2021

web bpc sap s 4 hana central finance and group reporting description this book will guide you through the process about what you need to know and help you perform at your highest

**cut over management in sap projekten planung durchführung** - Feb 09 2023

web cut over management in sap projekten planung durchführung und fallback szenarien cut over in implementierungs konsolidierungs und und checklisten zum download sap press remmert jürgen amazon de books books

[cutover activity in sap projects linkedin](#) - Oct 05 2022

web jul 9 2020 cut over is probably one of the most critical activities for the successful implementation of any erp sap project whether it is an implementation an upgrade or a migration from legacy systems to sap

**cut over management in sap projekten sap press** - Mar 30 2022

web freie e books cut over management in sap projekten sap press bücher lesen zitate cut over management in sap projekten sap press kindle

**cut over management in sap projekten sap press pdf** - Feb 26 2022

web mar 22 2023 cut over management in sap projekten sap press 1 11 downloaded from uniport edu ng on march 22 2023 by guest cut over management in sap projekten sap press this is likewise one of the factors by obtaining the soft documents of this cut over management in sap projekten sap press by online you might not require more

cut over management in sap projekten google books - Jul 14 2023

web cut over management in sap projekten jürgen remmert no preview available 2010

cut over management in sap projekten pdf free download - May 12 2023

web 1 jürgen remmert cut over management in sap projekten bonn boston 2 inhaltsverzeichnis vorwort einleitung projekttypen und cut over implementierungsprojekte roll out projekte standardisierung harmonisierung und konsolidierung upgrade projekte technisches upgrade funktionales upgrade enhancement packages implementierung

cut over management in sap projekten google books - Mar 10 2023

web cut over management in sap projekten sap essentials sap press author jürgen remmert publisher galileo press 2010 isbn 3836213915 9783836213912 length 238 pages export citation bibtex endnote refman

*cut over management in sap projekten sap press eric schaeer* - Jun 01 2022

web right here we have countless book cut over management in sap projekten sap press and collections to check out we additionally manage to pay for variant types and afterward type of the books to browse

**maximilien robespierre wikipedia** - Oct 15 2023

web maximilien françois marie isidore de robespierre french maksimilije robspjær 6 may 1758 10 thermidor year ii 28 july 1794 was a french lawyer and statesman who became one of the most widely known influential and controversial figures of

**maximilien robespierre revolution terror france britannica** - Apr 09 2023

web maximilien robespierre revolution terror france after the fall of the girondins the montagnards were left to deal with the country s desperate position threatened from within by the movement for federalism and by the civil war in the vendée in the northwest and threatened at the frontiers by the anti french coalition the revolution

**historic figures maximilien robespierre 1758 1794 bbc** - Jul 12 2023

web maximilien robespierre robespierre was a french lawyer and politician who became one of the most influential figures of the french revolution maximilien marie isidore de robespierre was

**maximilien robespierre biography french revolution reign of** - Sep 14 2023

web oct 9 2023 maximilien robespierre born may 6 1758 arras france died july 28 1794 paris radical jacobin leader and one of the principal figures in the french revolution in the latter months of 1793 he came to dominate the committee of public safety the principal organ of the revolutionary government during the reign of terror but

[maximilien robespierre world history encyclopedia](#) - Aug 13 2023

web jan 11 2023 maximilien françois marie isidore de robespierre 1758 1794 was a french lawyer who became one of the primary leaders of the french revolution 1789 1799 from his initial rise to stardom in the jacobin club robespierre went on to dominate the powerful committee of public safety and oversee the reign of terror

**maximilien de robespierre summary britannica** - May 10 2023

web maximilien de robespierre born may 6 1758 arras france died july 28 1794 paris french revolutionary a successful lawyer in arras 1781 89 he was elected to the national assembly 1789 where he became notorious as an outspoken radical in

**maximilien de robespierre death quotes facts biography** - Jun 11 2023

web apr 2 2014 maximilien de robespierre was a radical jacobin leader and one of the principal figures in the french revolution in the latter months of 1793 he came to dominate the committee of public safety

**cessna 172 maintenance manual pdf pdf aviation aircraft** - Oct 01 2022

web this manual provides the necessary information required to enable the mechanic to service inspect troubleshoot remove and replace components or repair systems note this manual is not intended to cover model 172 airplanes produced prior to 1996

**cessna 172 skyhawk owner s manual pdf download manualslib** - Dec 03 2022

web view and download cessna 172 skyhawk owner s manual online 172 skyhawk aircrafts pdf manual download *aircraft electrical systems* - Feb 05 2023

web this is the official maintenance manual for the cessna 172 skyhawk aircraft covering the models from 1977 to 1986 it provides detailed instructions and illustrations for servicing repairing and troubleshooting various components and systems of the aircraft it is an essential resource for owners pilots and mechanics of the cessna 172 skyhawk

**maintenance manuals aeroelectric com** - Nov 02 2022

web maintenance manuals model 172 series 1996 on maintenance manuals model 172 series 1996 on d138 1 13 model 100 series 1962 and prior model 100 series 1962 and prior model 100 series 1962 and prior d637 1 13

**cessna 172 series 1996 maintenance manual pdf** - Sep 12 2023

web view and download cessna 172 series 1996 maintenance manual online 172 series 1996 tools pdf manual download

**cessna 172 maintenance manual pdf document** - Mar 26 2022

web oct 9 2015 cessna aircraft company model 172 maintenance manual list of effective pages chapter section subject 00 title 00 list of effective pages 00 record of revisions 00 record of temporary revisions 00 table of contents list of manufacturers technical publications service bulletin

**list of effective pages aeroelectric com** - Jan 04 2023

web this manual contains factory recommended procedures and instructions for ground handling servicing and main taining cessna model 172 series aircraft this includes the models skyhawk skyhawkii reims cessna f172 sky hawk and skyhawkii the reims versions of these aircraft are of the same basic design as the domestic models be

[cessna 172 owner s manual pdf download manualslib](#) - Aug 31 2022

web aircrafts cessna 150 series manual 384 pages aircrafts cessna 172 skyhawk series service manual 299 pages aircrafts cessna 172 maintenance manual single engine models 167 pages aircrafts cessna 172 manual 83 pages aircrafts cessna 172 skyhawk owner s manual

**improvement of aircraft maintenance manual amm for cessna 172** - Jun 28 2022

web feb 23 2022 pdf purpose this study aims to bring a new approach to the existing structure of cessna 172 type aircraft maintenance manuals amm operational find read and cite all the

**cessna 172 skyhawk series service manual pdf** - Jun 09 2023

web view and download cessna 172 skyhawk series service manual online 172 skyhawk series aircrafts pdf manual download

**cessna maintenance parts manuals essco aircraft** - Apr 26 2022

web cessna 100 series 1962 prior maintenance manual cessna aircraft covers 150 172 175 180 182 185 series can be used as a guide for maintenance of the model 120 140 and 170 43 50 quick shop

[service maintenance manuals pohs cessna pilots association](#) - Jul 30 2022

web all technical information about your plane at one place

[cessna flyer association maintenance technical](#) - Apr 07 2023

web each person performing maintenance alteration or preventive maintenance on an aircraft engine propeller or appliance shall use the methods techniques and practices prescribed in the current manufacturer s maintenance manual or instructions for continued airworthiness prepared by its manufacturer or other methods techniques and

[cessna 172 free pdf manuals download manualslib](#) - Aug 11 2023

web results 1 20 of 31 cessna 172 maintenance manual 167 pages single engine models table of contents general list of chapters fuselage general section 3 brand cessna category aircrafts size 1 46 mb cessna 172 owner s manual 84 pages manual is suitable for 1 more product 172 m brand cessna category aircrafts size 3 15 mb

**aircraft electrical systems** - May 28 2022

web are you looking for a comprehensive service manual for your cessna 172 skyhawk download this pdf file from aerelectric com and get access to detailed instructions diagrams and specifications for the 1976 model whether you need to perform routine maintenance repairs or upgrades this manual will help you keep your skyhawk in top

**improvement of aircraft maintenance manual amm for cessna 172** - Mar 06 2023

web feb 23 2022 this study aims to bring a new approach to the existing structure of cessna 172 type aircraft maintenance manuals amm operational safety suitability for maintenance operations and human factors the purpose of this study is to maintain maintenance operations more safely and effectively

*cessna 172 maintenance manual pdf airplane landing gear* - Jul 10 2023

web cessna 172 maintenance manual free ebook download as pdf file pdf text file txt or read book online for free c172 maintenance for 1996 and on

**cessna 172 maintenance manual eaircraftmanuals com** - Feb 22 2022

web cessna 172 series 78 cessna 172 information manual 2 cessna 172 maintenance manual 4 cessna 172 parts manuals 20 cessna 172 poh owners manual 26 cessna 172 service manual 23 cessna 175 series 5 cessna 177 series 21 cessna 180 185 series 17 cessna 182 series 51 cessna 188 series 5 cessna 190 195

**cessna 172 maintenance manual pdf download manualslib** - Oct 13 2023

web view and download cessna 172 maintenance manual online single engine models 172 aircrafts pdf manual download also for 182 t182 206 t206

cessna 1969 1976 172 series service manual pdf - May 08 2023

web view and download cessna 1969 1976 172 series service manual online 172 and skyhawk series 1969 thru 1976 1969 1976 172 series aircrafts pdf manual download also for skyhawk series 1969 172k 1970 172k 1971 172l 1972 172l 1973 172m 1974 172m 1795 172m 1976 172m 1969 f172h