Getting acquainted with scientific databases

Please write down the subject you have chosen:

Search for big prime numbers

Using discovery tool LibrarySearch correctly

1. Go to LibrarySearch, the discovery tool of the TU/e Library → LibrarySearch
2. Locate a book or e-book that is relevant to your subject and available **online at the TU/e Library**
3. Write down the title and the publishing year of this (e-)book

Title	*Prime obsession : Bernhard Riemann and the greatest unsolved problem in mathematics,* John Derbyshire
Publishing year	2003

4. Locate a journal article that is relevant to your subject
5. Write down the title and the publishing year of this journal article

Title	*Elementary and combinatorial methods for counting prime numbers,* **Pascal Stumpf**
Publishing year	2017

6. Locate a book or journal article that is relevant to your subject and is **available as content type 'Open Access'**
7. Write down the title and the publishing year of this journal article or book

Title	*Jacob's Ladder:* ***Prime Numbers*** *in 2D,* **Alberto FraileRoberto MartínezDaniel Fernández**
Publishing year	2020

Choosing a relevant database

Go to http://library.tue.nl/AZDatabases/index.php?Language=eng

1. Select one database that you think is useful for your topic and major in addition to the database that is already filled in in the box below. Make sure you use the filters on the left!

→ **Don't use LibrarySearch here!**

2. Explain why you think these databases are relevant for your major and topic. Include the following terms in your motivation:
    a. Topics

b. Type of publications
c. Research fields

Database	Motivation
Scopus	This database offers publications on multiple topics beyond mathematics, which broadens the aspect of the researched problem (big prime numbers) and puts in into perspective in other fields. On the topic of the unresolved problem of prime numbers, Scopus offers information in multiple documents in various forms – articles and journals.
MathSciNet	This database is solely dedicated to mathematics and offers a wide variety of documents on multiple topics, separated into lists. In particular, MathSciNet offers extensive information about number theory, with publications spanning from 1980 until now. Also, it features older publications (from 1800s) in the form of articles and journals from international authors on similar topics, which provide an opportunity for an even deeper dive into the researched problem.

Understanding database features

3. Explain at least three differences in features between the databases. Use the information button in the database list and/or the help page of the database to find out which features the database has.

Difference 1	Scopus contains patent information and citation counts, while MathSciNet is purely a bibliographic database.
Difference 2	Scopus spans over a wider variety of publication types, such as reports, book chapters and patents, which cannot be found on MathSciNet
Difference 3	MathSciNet contains publications on mathematics only, while Scopus offers peer-reviewed articles on multiple sciences and topics.

4. Perform a search in both databases (you can use the search terms you used in LibrarySearch). Which database do you prefer and why? Please be aware that the number of results is not a good motivation because this depends on your query, not on the database!

Our pick would be MathSciNet. Although Scopus offers publications of various topics, it does not provide satisfactory articles on prime numbers and the curiosity behind number theory. On the other hand, MathSciNet has whole sections dedicated to the history of numbers, and in particular prime numbers, and the evolution in the search for the solution to the prime number problem. Furthermore, containing journals from over 2 centuries ago, MathSciNet gives the opportunity for deeper understanding of the topic. Many theories and researches on prime numbers can be found there.