# Sample Document Using the Glossaries Package With Xindy

Nicola Talbot

October 31, 2024

# 1 Karl Friedrich Gauss

This is a section on Karl Friedrich Gauss. This section spans several pages.

This paragraph has been shoved to the bottom of the page using a rule. This paragraph spans a page break for testing purposes to ensure the glossary entry

in this paragraph has the correct location. Here's the glossary entry: Gaussian function. Check that the location is correct.

This page talks about Gaussian integers. Since it's the principle definition, the user-defined hyperbfit format is used.

The section on Gauss ends here.

# 2 Series Expansions

This section is about series expansions. It mentions Colin Maclaurin and Brook Taylor. It also discusses Taylor's theorem which is related to the Taylor series. The Maclaurin series is a special case of the Taylor series.

# 3 Archimedes' principle

This section discusses Archimedes' principle which was introduced by Archimedes of Syracuse.

# 4 Another section

This section covers Ernst Mach who introduced the Mach number. It also mentions André-Marie Ampère after whom the SI unit ampere is named. It then discusses Sir Francis Galton and Thomas Robert Malthus. Finally it mentions John Loudon McAdam.

This page discusses Quinn McNemar who introduced McNemar's test and Giuseppe Peano who discovered Peano's curve.

# Glossary

## $\mathbf{A}$

#### ampere

SI unit of electric current named after Ampère. 🖸

## Ampère, André-Marie

French mathematician and physicist. ⊡, □

#### Archimedes of Syracuse

Greek mathematician. ⊡, ∷

#### Archimedes' principle

Principle that if a body is submerged in a fluid it experiences upthrust equal to the weight of the displaced fluid. Named after Archimedes.

 $\mathbf{G}$ 

#### Galton, Sir Francis

English anthropologist.

# Gauss, Karl Friedrich

German mathematician. ⊡-⊡

#### Gaussian function

A function of the form:

$$f(x) = a \exp\left(-\frac{(x-b)^2}{2c^2}\right)$$

for some constants a, b and c.  $\Box$ 

## Gaussian integer

Complex number where both real and imaginary parts are integers.  $\Box$ 

 $\mathbf{M}$ 

#### Mach number

Ratio of the speed of a body in a fluid to the speed of sound in that fluid named after Mach.

# Mach, Ernst

Czech/Austrian physicist and philosopher. ⊡, ∷

#### Maclaurin series

Series expansion. ⊡, ∷, see Taylor's theorem

#### Maclaurin, Colin

Scottish mathematician best known for the Maclaurin series.

# Malthus, Thomas Robert

English mathematician, sociologist and classicist.

#### McAdam, John Loudon

Scottish engineer.

## McNemar, Quinn

Mathematician who introduced McNemar's test. This entry has the number list suppressed.

#### McNemar's test

A nonparametric test introduced by McNemar in 1947. □, □

P

# Peano, Giuseppe

Italian mathematician. □, □

#### Peano's curve

A space-filling curve discovered by Peano. 

□

 $\mathbf{T}$ 

# Taylor series

Series expansion. , see Taylor's theorem

## Taylor, Brook

English mathematician.

#### Taylor's theorem

Theorem expressing a function f(x) as the sum of a polynomial and a remainder:

$$f(x) = f(a) + f'(a)(x - a) + f''(a)(x - a^2)/2! + \dots + R_n$$

If  $n \to \infty$  the expansion is a Taylor series and if a = 0, the series is called a Maclaurin series.  $\Box$