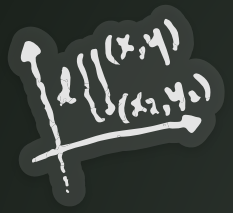
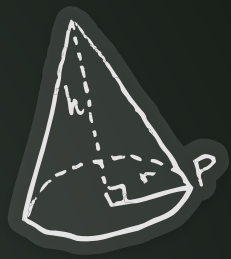
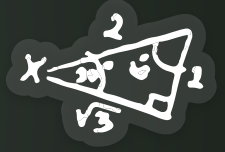


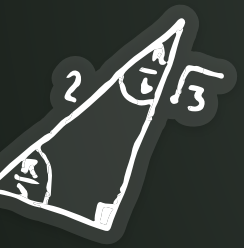
$\sim\forall x\forall y[P(x,y)] \equiv \exists x \exists y[\sim P(x,y)]$ $\tanh(z) = -i\tan(iz)$



Leiden Wall Formulae

$2ab + b^2$

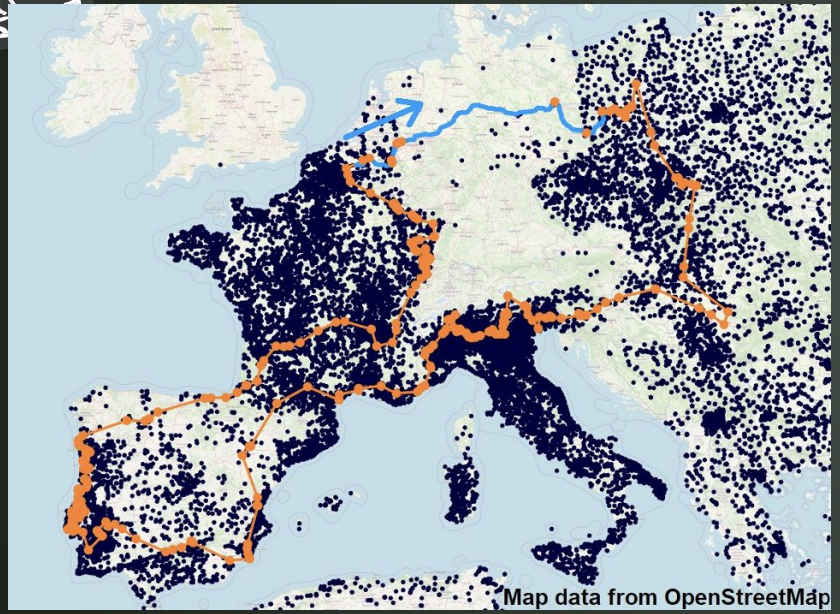




$a_1 r^{n-1}$

Hannah Gray
@snowpinga (mathstodon.xyz)

A Journey



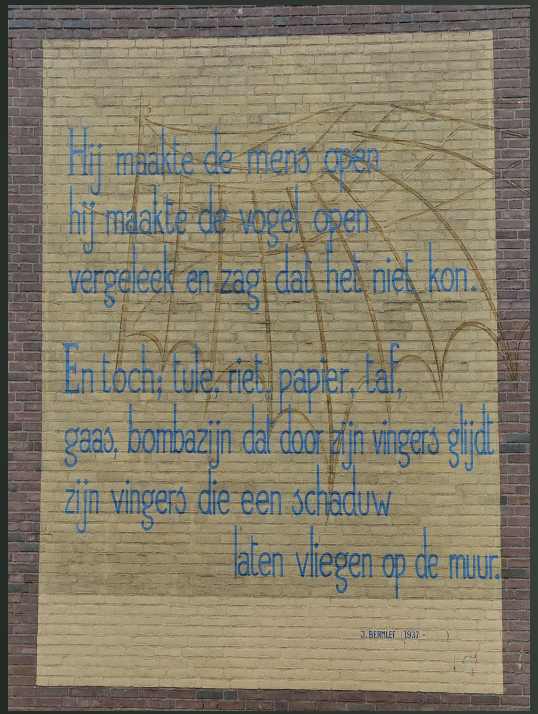
http://www.benguin.co.uk/

$\operatorname{sech}(z) = \sec(iz)$

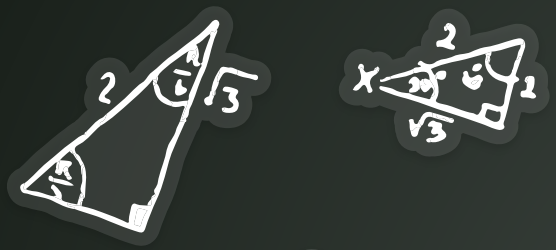
$\operatorname{arccoth}(z) = \frac{1}{2}\ln\left(\frac{z+1}{z-1}\right)$

$a_1 r^{n-1}$ $2ab + b^2$

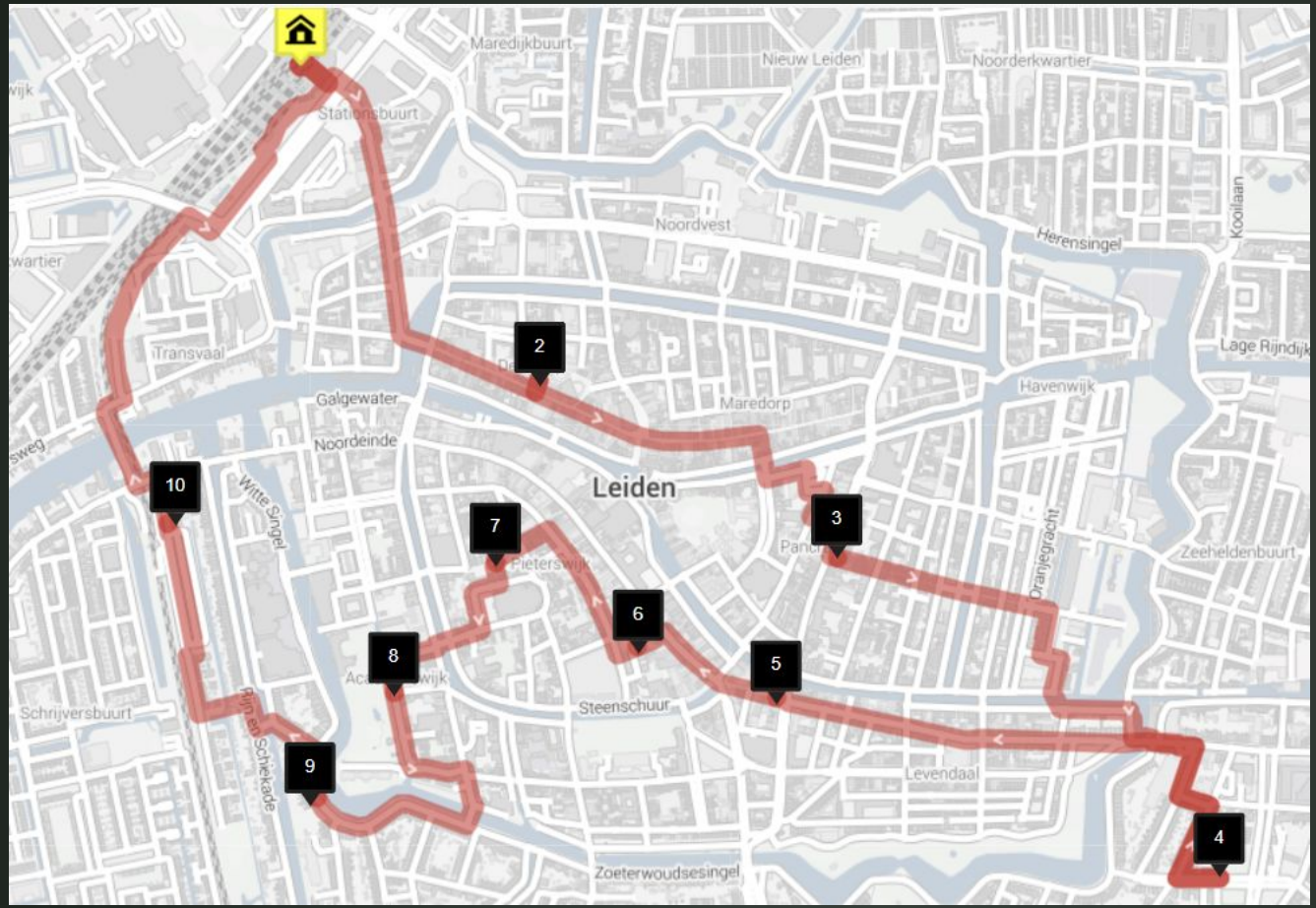
Why Wall Formulae?



- Sense Jan van der Molen and Ivo van Vulpen
- "You can sense the beauty of a formula even without fully understanding it."



Planning


Maredijkbuurt
Nieuw Leiden
Noorderkwartier
Stationsbuurt
Noordvest
Herensingel
Kooilaan
Transvaal
Lage Rijndijk
Havenwijk
Galgewater
Maredorp
Noordeinde
Leiden
Witte Singel
Pieterswijk
Oranjegracht
Zeeheldenbuurt
Steenschuur
Schrijversbuurt
Rijnsburgerschiekade
Levendaal
Zoeterwoudsesingel
2
3
4
5
6
7
8
9
10

10.4 km

My Order

Year of discovery/publication:

- Snell's Law
- Huygens' Pendulum Formula
- Van der Waals state equation
- Lorentz contraction
- Lorentz force
- Einstein field equation
- Electron spin
- Oort constants
- Pharmacokinetics

Snell’s Law

- Willebrord Snel van Royen (Snellius) was a professor in Leiden.
- Used triangulation to calculate Earth’s circumference.

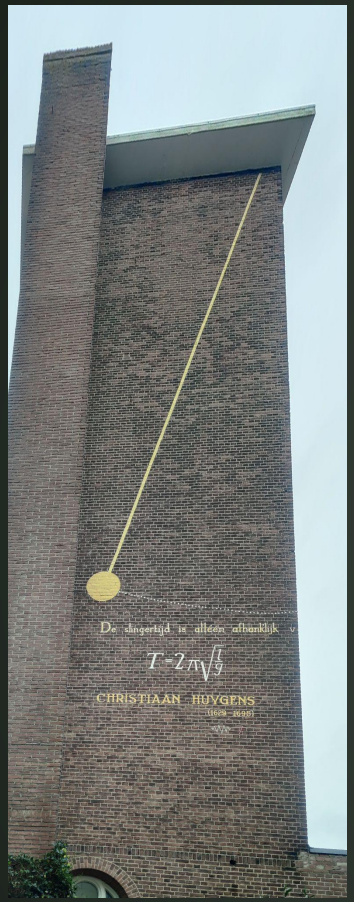
Want to know more about using Snell's Law?

chalkdust

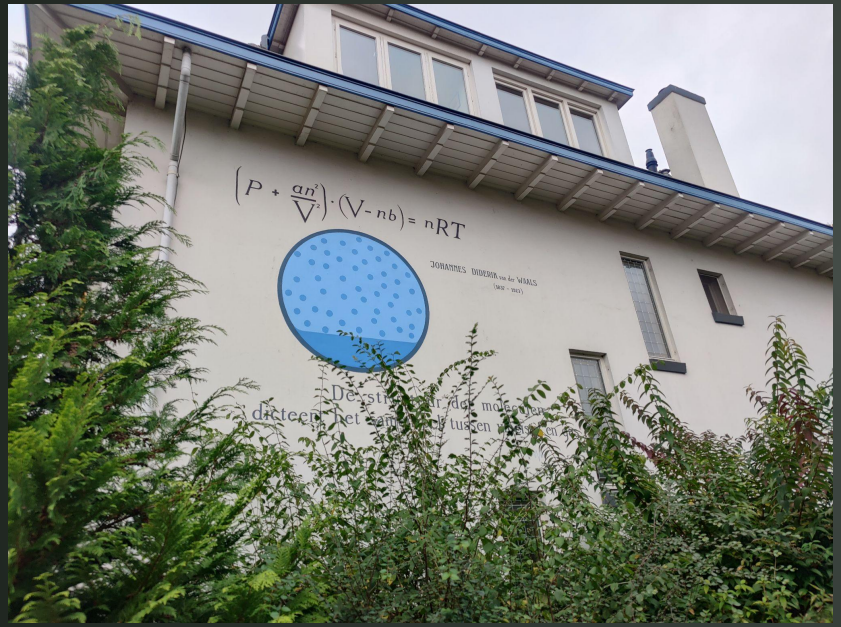
A magazine for the mathematically curious

https://chalkdustmagazine.com/blog/mathematical-album-art/

Huygens' Pendulum Formula



Van der Waals state equation

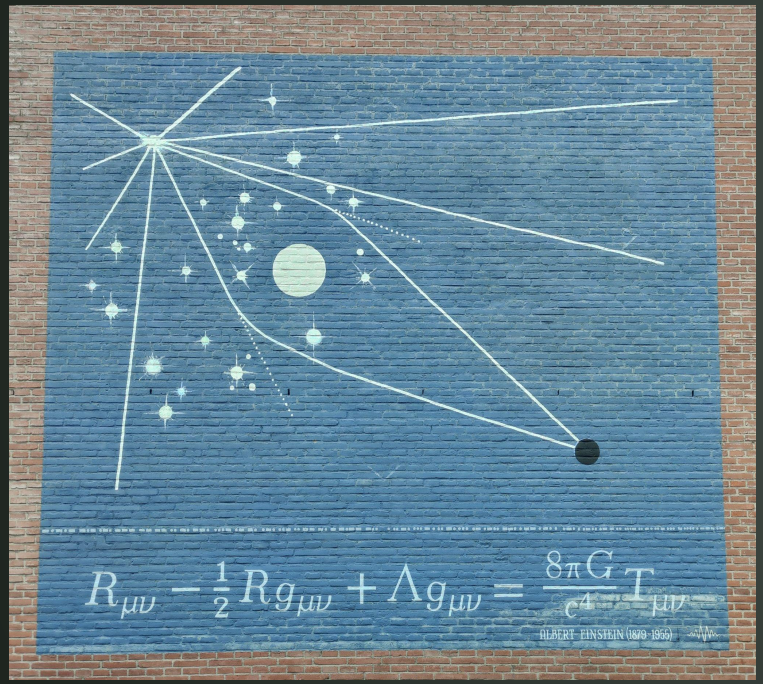


Johannes Diderik van der Waals was born in Leiden in 1837 and defended his PhD thesis at Leiden University in 1873.

Lorentz Contraction & Lorentz Force

- The faster an object travels, the shorter its length.
- Or vice versa: the faster an observer is travelling, the smaller all stationary objects get.

Einstein field equation



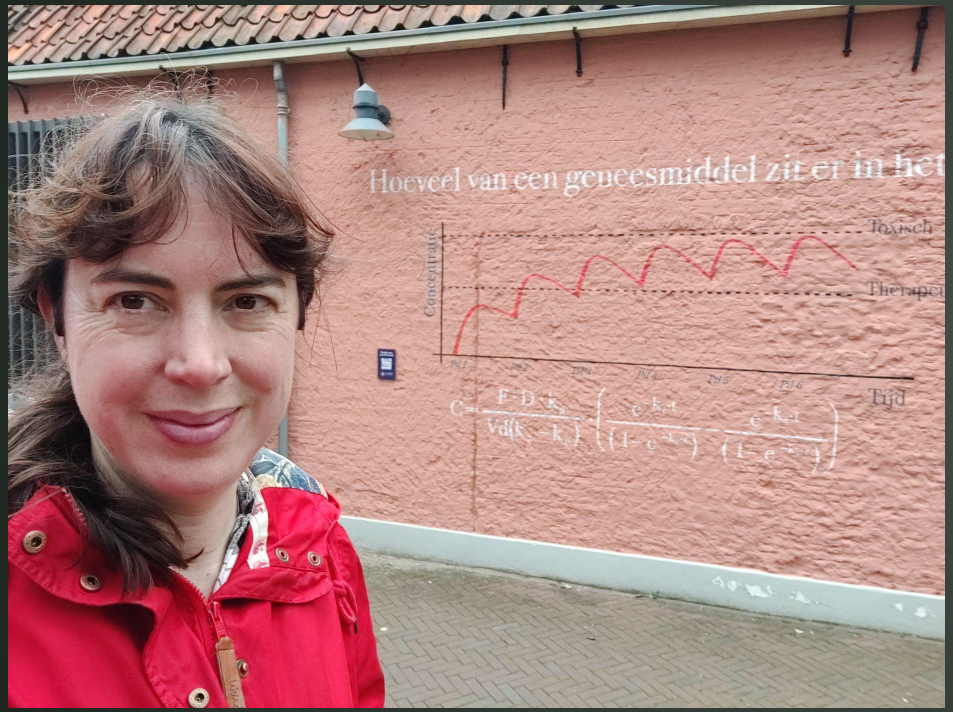
Electron Spin

- Samuel Goudsmit and George Uhlenbeck obtained their Master's and PhD degrees at Leiden University.
- Together they realized that electrons must have the property of spin, and that this can only take up two values (up and down).

Oort Constants

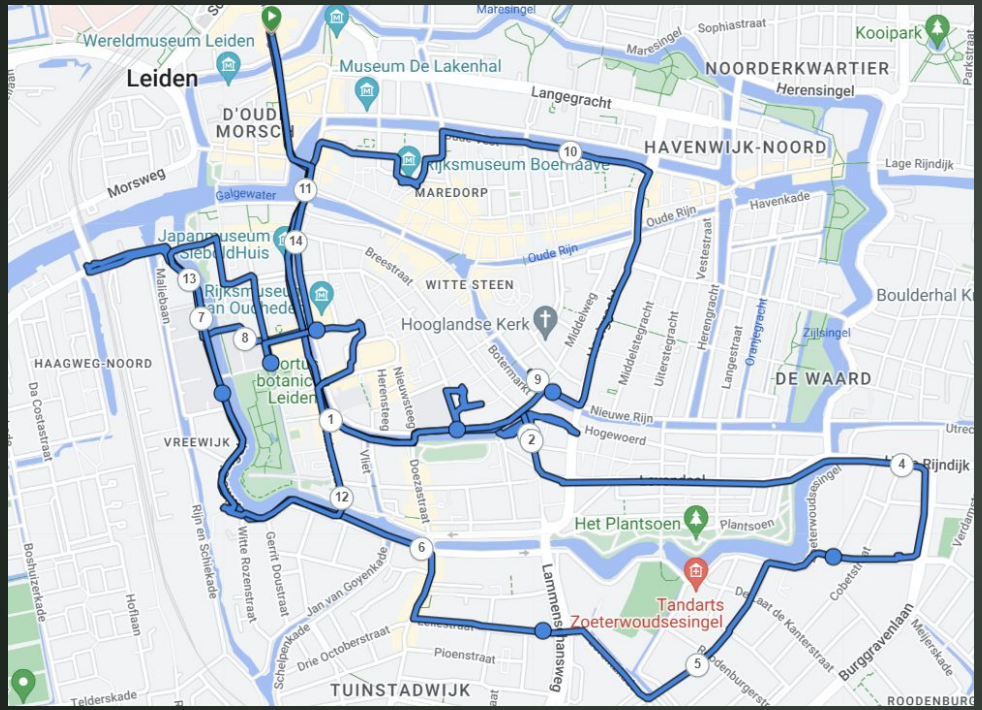
The mural is located just across the river from the Leiden Observatory, where Jan Hendrick Oort worked for many years.

Pharmacokinetics



Pharmacokinetics is the discipline within clinical pharmacology that broadly describes the changes in the quantity of drug and/or drug metabolite in various body compartments over time.

My Journey…



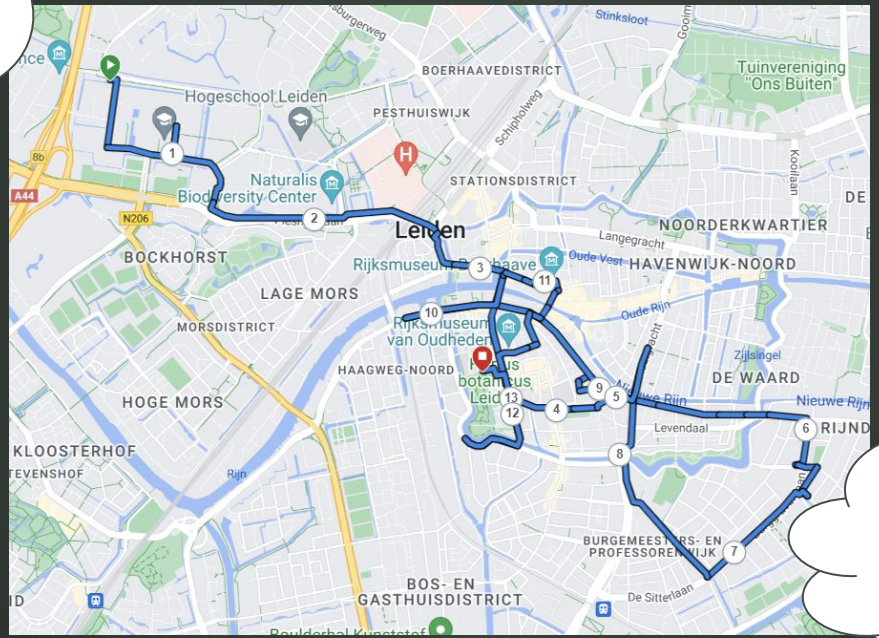
14.54 km!

But wait…


LORENTZBRUG

Final Route

Einsteinweg
JH Oortweg
Snellius
Huygens



Lorentzkade
Uhlenbeckkade

Addresses

If you want to create your own map, these addresses get you to the locations:

Haagweg 8, 2311 AA Leiden
Witte Singel 58, 2311 BL Leiden
Rapenburg 73a, 2311 GJ Leiden
Gerecht 13, 2311 TC Leiden
Plaatsteeg 20, 2311 DB Leiden
Hogewoerd 37, 2311 HE Leiden
Groenesteeg 2, 2312 TL Leiden
Lange Sint Agnietenstraat 3, 2312 WC Leiden
Fruinlaan 16, 2313 ER Leiden

Links

My Route

https://connect.garmin.com/modern/course/317221786

Ben's Epic Journey

https://www.youtube.com/watch?v=MwRbr-MjwII

Google Map

https://maps.app.goo.gl/tPFVH89SmaNFdFvQA

Street Poetry

https://straatpoezie.nl/

A Walking Route

https://www.covestocliffs.com/post/leiden-wall-formulas-walking-route-with-map

Leiden Wall Formulae

https://www.muurformules.nl/

Bumble Bees Solve TSP

https://www.youtube.com/watch?v=NwRsCy3NBY0

Route Optimiser

https://www.routexl.com/

Perfect Mathsjam Talk

https://docs.google.com/presentation/d/1S2FeYJ5bGxnOXGZT7vQTkqOZqPL9m-ju2-weEP86E3w/edit#slide=id.p