



VISIT MATH



Co-funded by  
the European Union

# Itinerary

- 1 Hortillonnages
- 2 Cathedral
- 3 Rue des 3 cailloux
- 4 House of Jules Verne
- 5 Jules Verne museum
- 6 Picardy museum



Funded by the European Union. View and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. Project code: 2022-1-FR01-KA220-SCH-000090275



This work is licensed under the Creative Commons Attribution NonCommercial-ShareAlike 4.0 International License (<http://creativecommons.org/licenses/by-nc-sa/4.0/>).



VISIT MATH



Co-funded by  
the European Union

# VisitMath Tours AMIENS



FERMAT SCIENCE  
Une autre idée des maths



FERMAT SCIENCE  
Une autre idée des maths

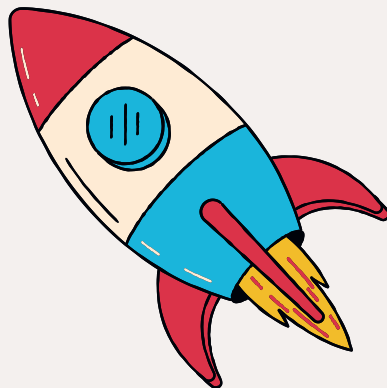


## Before the tour: what to take into account

Hello, young adventurer. As a former Amiens inhabitant, I thought it would be interesting to guide you through my city. As you will see, I have given my name to several parts of the city: that's right, I am Jules Verne himself!



I used to write about scientific discoveries and the marvels that we, humans, could now access. I have climbed the highest mountains and dove in the deepest oceans, explored the caverns of the Earth and the craters of the Moon - in fiction. Let me show you my legacy...



Amiens is an old commercial French city which became rich from the trade of wheat and of the blue pigment that the royalty would use: check out the representation of French kings, they all wear the same blue! However, it later became famous for another reason: it was the birth place of famous French author Jules Verne, whose books have enabled many children to dive into his imaginary worlds. Ready for a "Journey to the Centre of Amiens"? Let's begin!

I advise you to use a calculator for steps 2 and 4. Use a pencil and a ruler for Step 3: Rue des 3 cailloux. Apart from that, you should be good!

Let science prosper! The Amiens city centre is accessible to all people, no matter their disabilities. Feel free to embark on this tour!



**Start the tour in the Hortillonnages area: do not go too far from the cathedral as the next steps of the tour will take place in the city centre.**

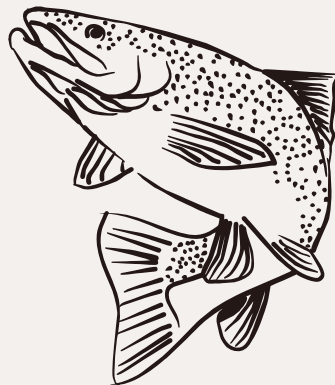
## Step 1: A stroll in the parks



The Amiens “Hortillonnages” are a series of gardens where farmers would cultivate fruits and vegetables for the city until the 1950s. Today, this place is used as a park that you can visit from the numerous canals that cross it, while a few market gardeners still cultivate the land.

Don't be scared, it is still me, Jules Verne. You may be surprised to see that I am a shapeshifter, but let's be honest: how do you think I was able to do so much in my lifetime?

The Hortillonnages are not easy to navigate, so I chose to be a fish. You can visit them by boat, but you will not be able to access every area of the garden if your boat is too big.



### Instructions:

As of today, there are three options if you want to use the boats:

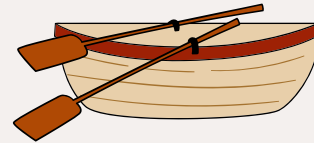


1

A big electric boat, which can travel at a speed of up to 15 km/h on the bigger lakes only. This tour is 2,5km long.

2

A small jon boat, which travels at a speed of 5km/h and can access the smallest canals. This tour is 9km long.



3

A medium group boat, which travels at a speed of 9km/h and can access some of the canals. This tour is 6km long.



Which option would you choose to make the most of 30 minutes of free time? What if you have 1h? 2h? Be careful: you cannot get out of the boats before the ride is over, and you want to spend as much time as possible in the boat!



Your next destination is the Amiens cathedral. It is a 10-minute walk from where you stand. Can you spot its towers in the distance?

## Step 2: The cathedral

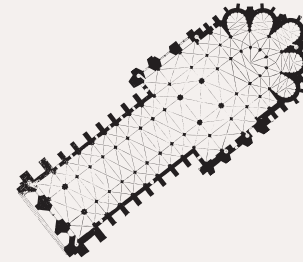


The Amiens cathedral is an outstanding monument: it is the largest cathedral in France! It is – by far – not the biggest in Europe, but it is considered a major work of art since it was renovated by architect Viollet-le-Duc, who is famous for renovating monuments with a romantic touch. If you have enough time, don't hesitate to visit it: the proportions look even more majestic from the inside!

In the meantime, let's consider a smaller version of the cathedral. Imagine you are looking at a replica of the cathedral at the size 1/500. The model of the nave would be 29cm long and 8.6cm high, and its volume would be 1 596,16 cm<sup>3</sup>.



How wide would the nave be?



Now use this data to calculate the dimensions and volume of the nave of the actual cathedral.

The nave of a cathedral is the central part of the building. Its rectangular shape is topped by the altar and its distinctive half-circle.

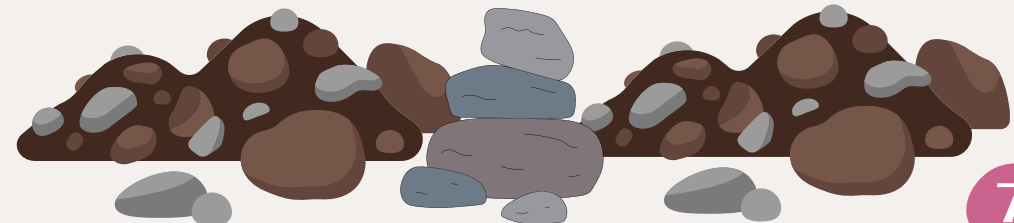


### The city of Amiens:

If you want to learn more about the city and its role through the centuries, the cathedral is a good indicator of the prosperity of the place in the Middle Ages: the city was so rich that it is today the French city with the most registered World Heritage sites. Although it suffered from both world wars, the city has been rebuilt to preserve a big part of French history.



The next stop is Rue des 3 cailloux, a pedestrian-only street in the heart of Amiens!





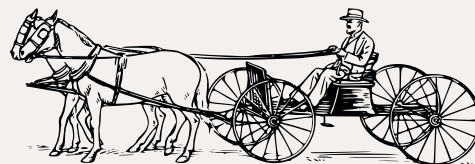
### Step 3: Rue des 3 cailloux



The Rue des 3 cailloux (“3-pebble street”) is one of the most known streets in Amiens. First of all, it is an old street in the city centre – it was built in the 15th century – and is entirely pedestrian: nowadays, passer-byes come to this place to do their shopping. Second, the name itself is intriguing: it was named after a private mansion owned by the three Cailleu brothers which was destroyed in the 16th century to make room for the king’s palace.



If you’re done early with this task, you can do a bit of shopping. Look, I’ve got the cart ready!



But first, let’s take a look at this map:



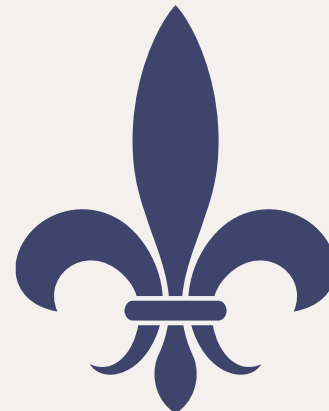
Trace the following functions on the map:

$$f(x) = 1 + \frac{2}{3}x$$

$$f(x') = 12.25 - \frac{3}{4}x$$

$$f(x'') = 3 + \frac{1}{4}x$$

Draw the medians of the triangle you obtain. Where do they cross? That’s where this old mansion used to be!



This palace belonged to François I, who wanted a place to stay in Amiens. Although you cannot visit the building since it has been purchased by the Amiens university, it is still a nice building to look at!



Walk on Rue des Otages and Place du Maréchal Joffre to find the house of Jules Verne, which is our next stop!

#### Step 4: The house of Jules Verne

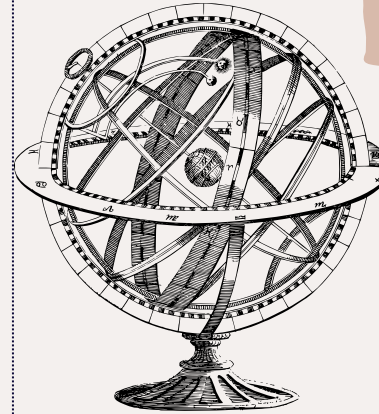


You will find, on Charles Dubois Street, the house where Jules Verne spent the last 20 years of his life. How much do you know about the author? He has written many famous novels that have later been turned into movies: Journey to the Centre of the Earth, Michel Strogoff, Twenty Thousand Leagues under the Sea, Around the World in Eighty Days...



Did you know that you can find my name on street plates and museums around the world, such as in Russia or the United States!

Do you like what you see on top of the tower? The armillary sphere really makes this house special - although it was only added in 2005 so I never lived to see it. This kind of machine was used to calculate the position of the stars in the sky or simply to tell the time. While this one is not functional – the iron structure cannot move – we can still appreciate the beauty of the design itself.



We will focus on the two main circles that constitute the core of the armillary sphere. The bigger one has a diameter of 5 meters, while the second one is 70% of its size.

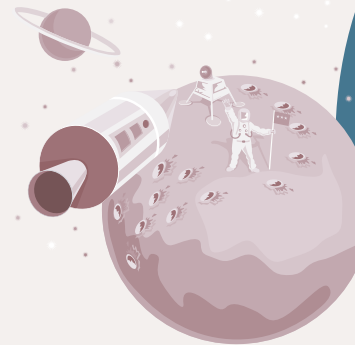


Calculate the area and volume of both spheres.

Doesn't this item look gorgeous? And to think that I now have one of my own...



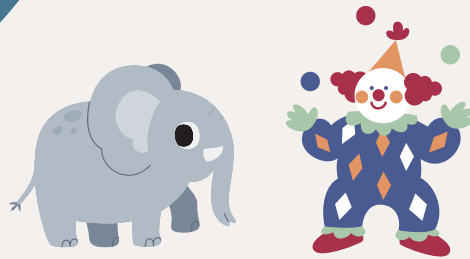
Jules Verne has written several novels on contemporary or futuristic inventions, including on the spatial conquest which had not begun just yet during his life. Books like From the Earth to the Moon and Around the Moon represent the fascination of the author for outer space.



Follow the Jules Verne boulevard to reach the next step... which is also related to the author!

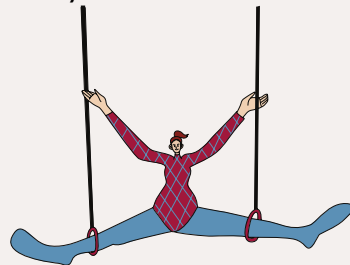
## Step 5: The Jules Verne circus

Contrary to the house, Jules Verne never lived here: the name was given to the circus after the death of the author as a testimony of the impact he had on the city and on the circus itself.



I have donated large amounts of money to support the construction of this circus: I am just a man of arts after all! Today I have become a famous figure around here: several streets and schools carry my name, and the city has installed several statues of me around my house. I really feel at home!

The following table displays the price of entry for the circus shows:



Age group	0-26 y.o	26-64 y.o	64+ y.o
Ticket price	10€	25€	15€



Here is the audience for the latest acrobatics show. The circus had a special offer for older people who came with youngsters: the price for seniors is 10€ too if they come with a young person. 80% of the 64+ category has come with a youngster.

My passion for the circus is a mystery for no one: I once wrote a novel about a circus worker who had to lead an expedition to go back to his natal Normandy. Check it out!



Age group	0-26 y.o	26-64 y.o	64+ y.o
Number of people	54	100	40



What is the average price paid by a visitor?  
What is the median price?  
What is the price paid by the first and third quartiles?



Jules Verne is not the only famous figure to give his name to the circus. Indeed, the park in which the circus is located is named after Annie Fratellini, a famous French clown who lived in the 20th century. However, she never got to know the author who died nearly 30 years before she was born!



Walk up Rue de la République until you see a fine palace in the distance. Go in front of it to admire its architecture.

## Step 6: The Picardy museum

The last step of our journey will focus on a building that gathers works of art found in archaeological excavations or more recent paintings and sculptures created by local artists. The collections include, among others, an official copy of The Raft of the Medusa and a depiction of Lady Godiva. If you want to visit the museum after the tour, the entry is free for people under 26 years old.



You will not find any works related to me in this museum, but it is worth a detour nevertheless! The paintings and sculptures displayed in there may inspire you on your future journeys...

How much do you know about powers? Let's see about that! As you walk to the front entrance of the Picardie museum, people are waving at you from the first-floor windows of the building. How many are there exactly?





Musenor

They are not very well organized: indeed, there is only one person at the left-most window, and there are twice that amount of people at each next window. So, there is one person at the first window, two at the second, four at the third and... well, we'll let you count by yourself!

How many people are waving at you in total?

#### Sissa's problem:

The previous exercise is a re-imagination of Sissa's problem: Sissa was a mathematician who, as a reward for inventing the game of chess, asked his king to give him some rice.

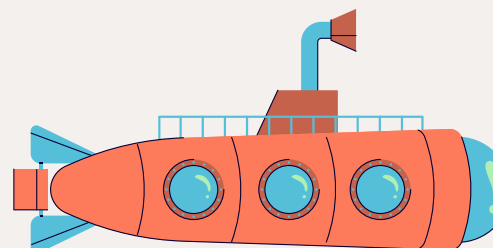
However, there was a trick: the king would have to place one grain on the first square and double on each next square. Although it seemed easy at first, the king was soon unable to complete the task as he had to put more rice on the chessboard than there was in the entire kingdom.



What a nice story to conclude the tour, right? Time for me to turn back to normal. I hope you had a nice journey in my city! And if you have some time on your own, I suggest you read some of the novels I have written - your imagination can make you travel as much as any train or plane...



That's it for this tour!  
We hope you had fun following the path of Jules Verne in Amiens.



Don't hesitate to check out our other visits for more entertaining activities 😊