

NMCC/MatCup 2021

Finland

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Diary

First Day

Today on Tuesday 5th of May 2021 we separated our class into groups and started working with our math project. One group started working with the first task. Second group started working with a mathematician presentation and they chose Leonhard Euler. Third group work with report.

Second Day

On wednesday 5.19.2021 groups continued working with their tasks. Group who worked with the first task figured out the answer.

Third day

On thursday 5.20.2021 one group got the mathematician presentation ready and the second group started finishing the first task.

Fourth day

On friday 5.21.2021 the first task got fully finished. Other groups didn't do much today.

Fifth day

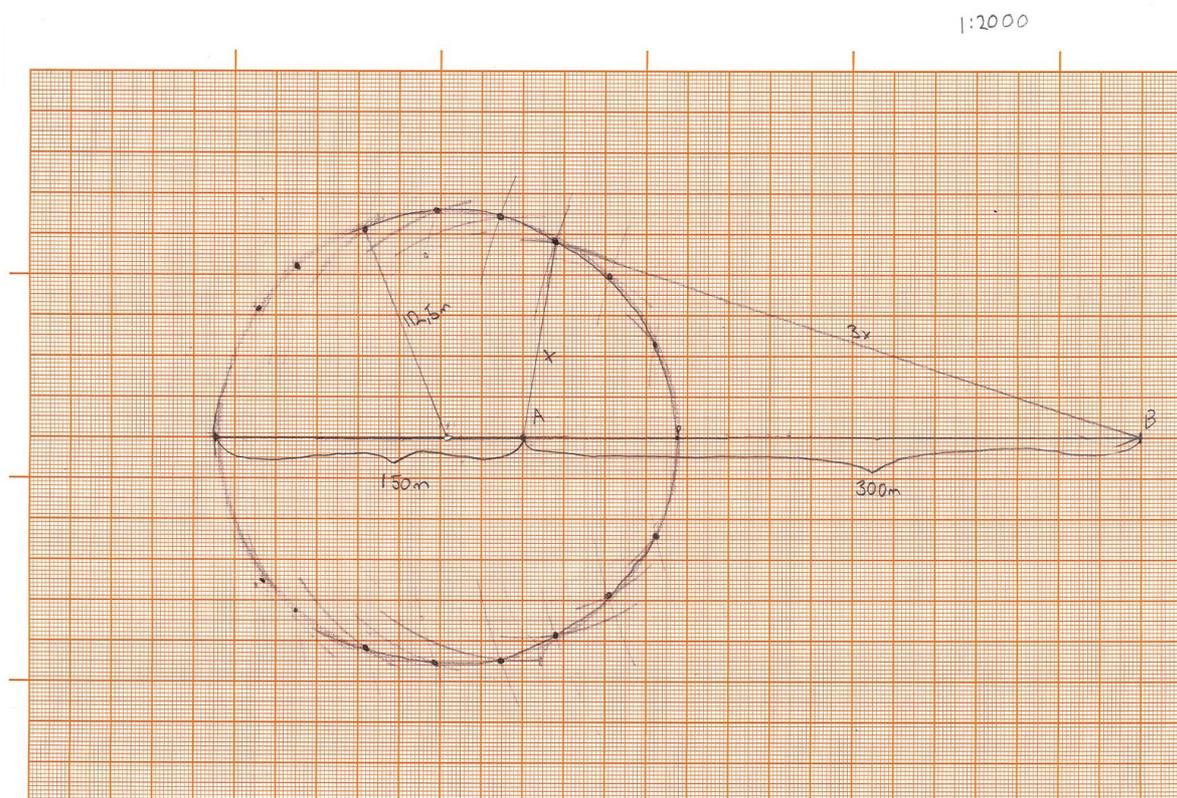
On monday 5.25.2021 we finished the whole project and checked if the spelling was correct.

1st tasks progress

Day 1: First we tried to lock Petteri's house and think of the other points location. Then we realised that we should lock the other two points and think of the possible places for Petteri's house. We also tried to think if it was possible to get some answers with pythagoras' theorem, but that didn't work out.

Day 2: Railway station is point A. Town hall is point B. We started to think of numbers that can be divided by four to solve the minimum distance from point A. We used a compass to create circles around point A and point B and find their crossingpoints. The scale we used was 1:2000. If the smaller circles (around point A) radius was 100 meters the bigger ones (around point B) needed to be three times that so it was 300 meters. We also found out that the smallest possible radius for the smaller circle was 75 meters and the biggest was 150.

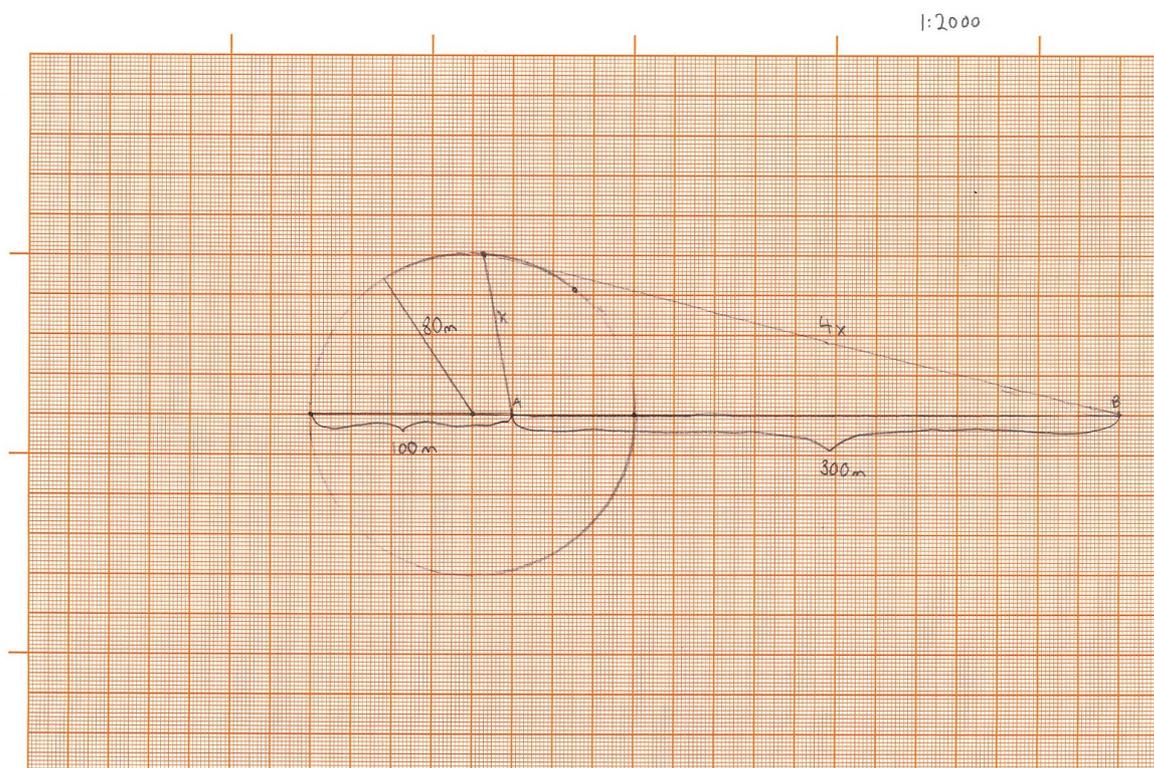
Day 3: We drew all the crossingpoints on the paper and connected them when we had enough.



Day 4: We did some counting and realised that the figure of all the possible places for Petteri's house was a circle. The circle's center is on the same line as point A and B, 37,5 meters from point A. The circle's radius is 112,5 meters.

2nd tasks progress

Day 5: We chose to do a variation from the first task putting the difference in the distances to be 4 times instead of three times. We drew that on the paper and the final circle's radius was 80 meters and the center was 20 meters from point A.

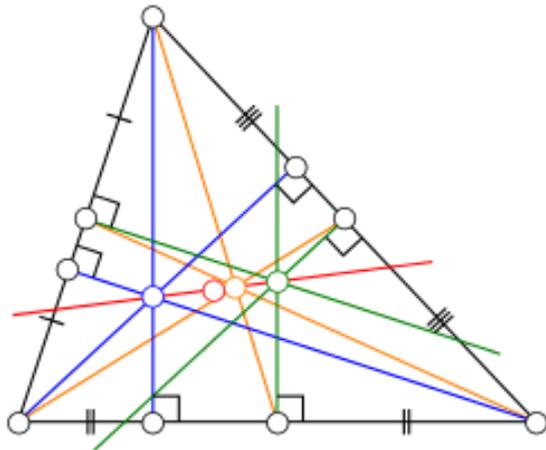


LEONHARD PAUL EULER

Leonhard Paul Euler was a swiss mathematician who spent most of his life living in Russia and Prussia. He lived between 1707-1783. Euler was a professor in Petersburg and later in Berlin.

Euler first used the concept named function. Euler is also known as a good physician. Euler was a mathematical genius already when he was a child. Euler's interest in math was given by his fathers teachings. From Euler have been the most recently used markings such as sum of pi and imaginary unit and its markings. One of the most known of Euler's work is so said Euler's identity, what has been called one of the most beautiful mathematic formula.

In Euler's last 17 years he was blind. Euler made almost half of his articles while he was blind. He wouldn't have survived alone so he asked his sons to help him. He used rounds circumference and to solve diameters he used π -letter. Euler was probably the most productive mathematician of all time, and he ruled 1700-centuries math (Euler's era). Euler's characteristic is one of the algebraical topologies invariant, which reflects topologies' space structure. The Euler's line is a line passing through some notable points of the triangle. In the end Euler is probably the mathematician who had the most effect on math.



Red line is the Euler's line

Bibliography

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<https://fi.wikipedia.org/wiki/Euler>

https://fi.wikipedia.org/wiki/Eulerin_suora#/media/Tiedosto:Triangle.EulerLine.svg