

Supertasks

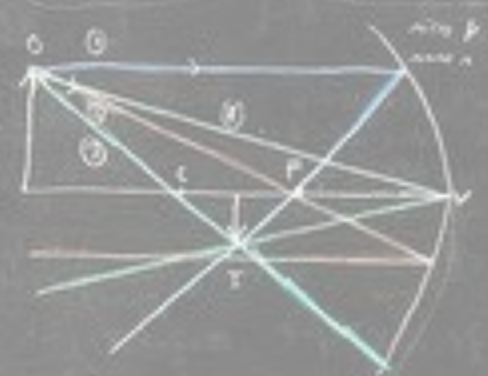
(The background contains a dense collection of handwritten physics notes and diagrams, including formulas for wave interference, lens optics, and thermodynamics.)

Voitsova Sophia
 ЗЛИСИ В1.2/2
 W3362

Outline

Today I'm telling you about supertask by example
Gabriel's cake.
Let's cook!

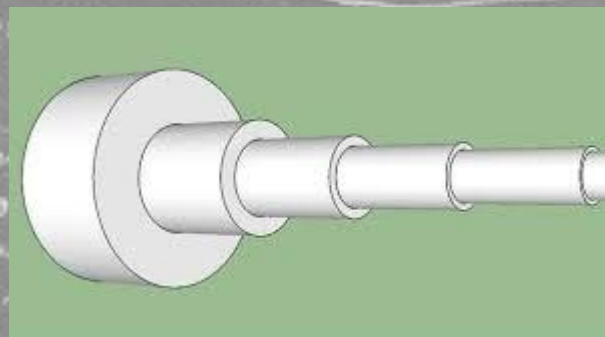
(Background: A dense page of handwritten physics notes in various colors, including blue, green, and red. The notes cover topics such as wave interference, optics, and thermodynamics. Key phrases include "critical angle", "single slit diffraction", "spherical mirror", "dispersion", "radius of curvature", "spherical mirror", "convex mirror", "concave mirror", "real image", "virtual image", "inverted", "upright", "magnified", "diminished", "same size", "same distance", "infinite", "zero", "infinity", "undefined", "indeterminate", "L'Hopital's rule", "Newton's method", "Taylor series", "binomial expansion", "binomial theorem", "binomial coefficient", "binomial distribution", "binomial probability", "binomial expansion", "binomial theorem", "binomial coefficient", "binomial distribution", "binomial probability".)



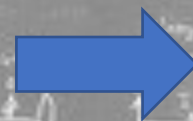
Material	Temperature	Length	Area	Volume	Mass
Aluminum	0	1	1	1	1
Steel	20	1	1	1	1
Copper	30	1	1	1	1

Introdacion.

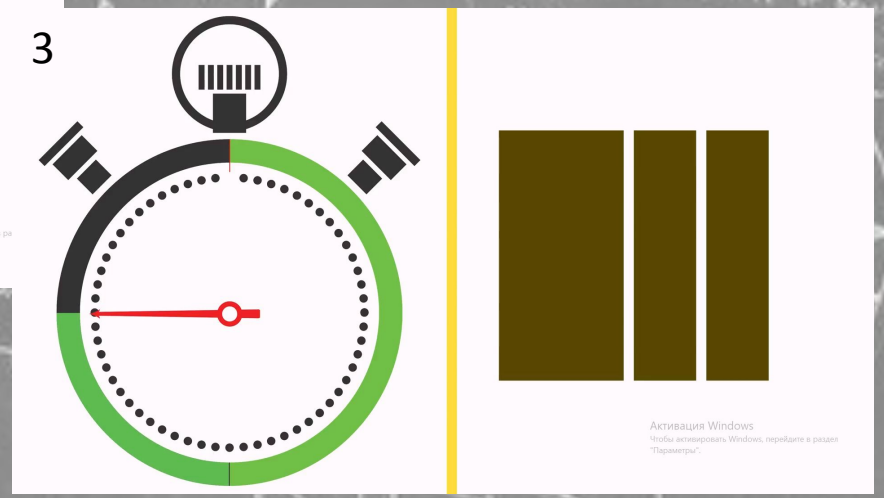
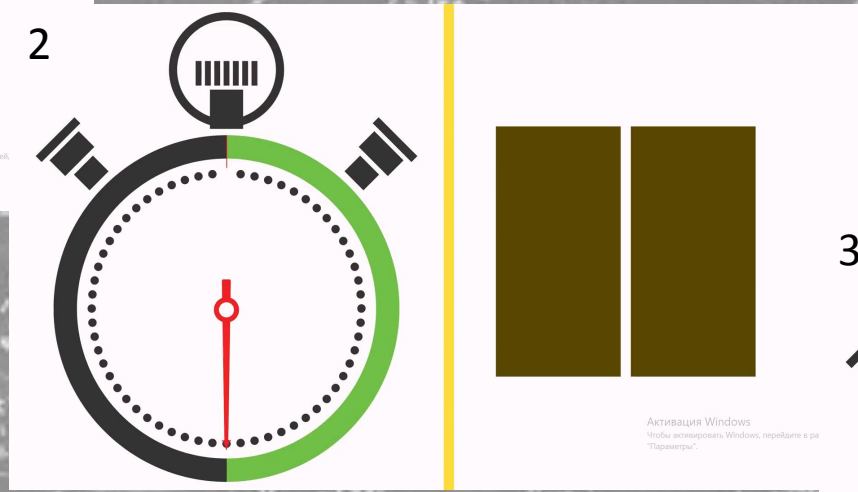
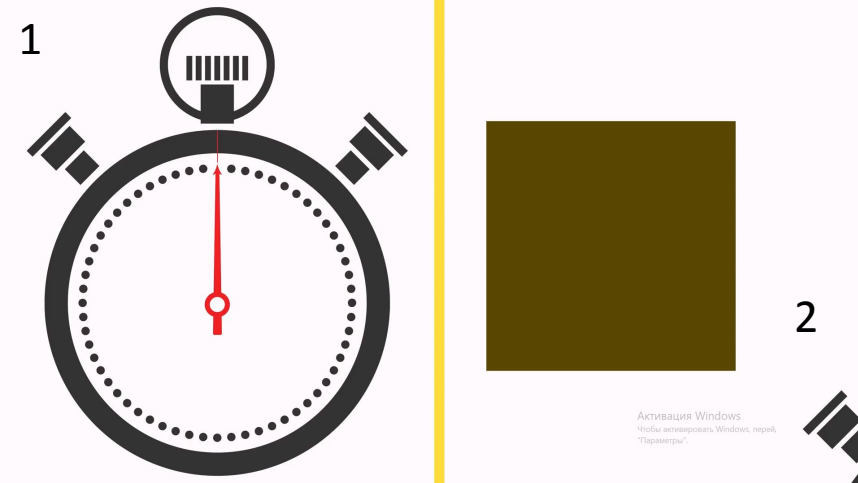
The Paradox of Gabriel's Horn.



What is a Gabriel's cake?

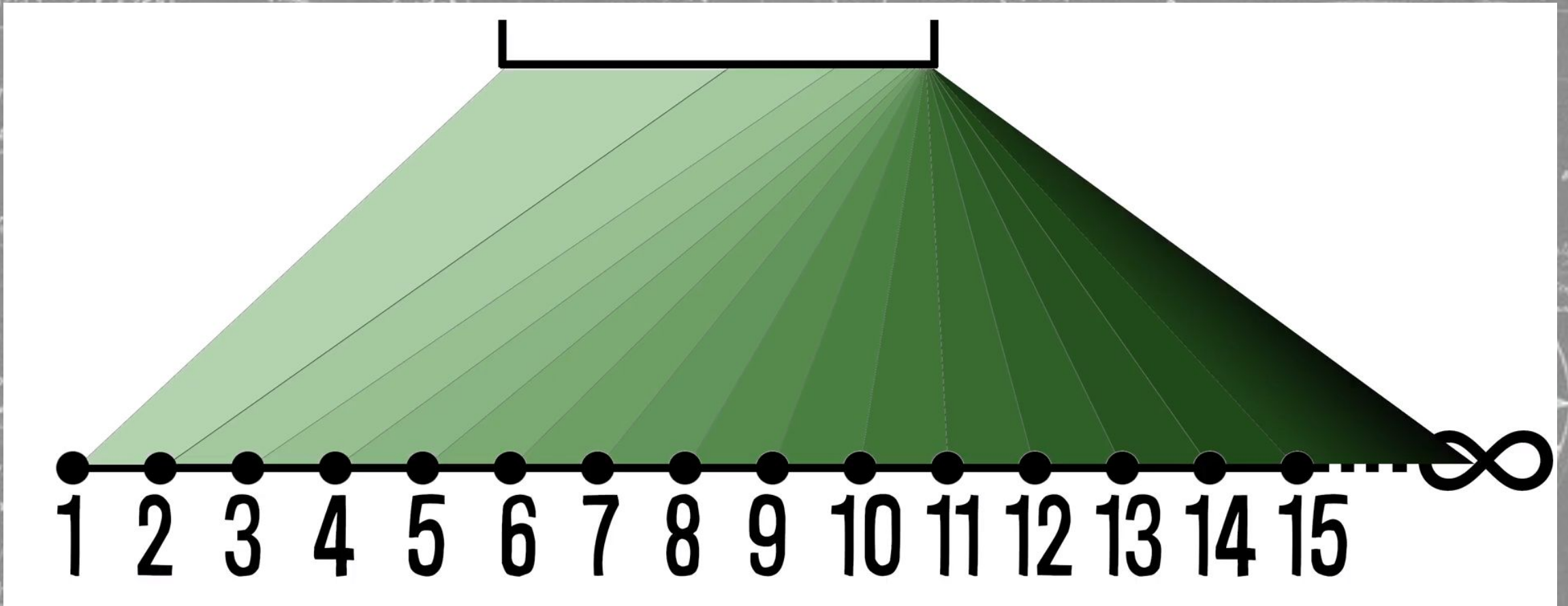


Gabriel's cake in two minutes



Supertask

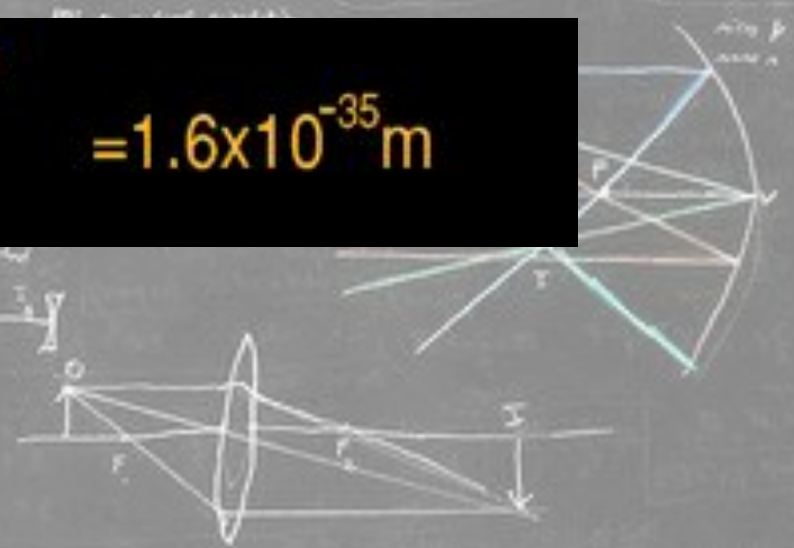
Infinitely actions in the limited period of time is a **SUPERTASK**.



Limitations of the real world

$$\text{Planck Time} = \sqrt{\frac{G\hbar}{c^5}} = 5.4 \times 10^{-44} \text{ s}$$

$$\text{Planck Length} = \sqrt{\frac{G\hbar}{c^3}} = 1.6 \times 10^{-35} \text{ m}$$



Conclusion

Logically an infinite number of individual actions can be carried out over a finite period of time. But only logically!

