

Supertasks

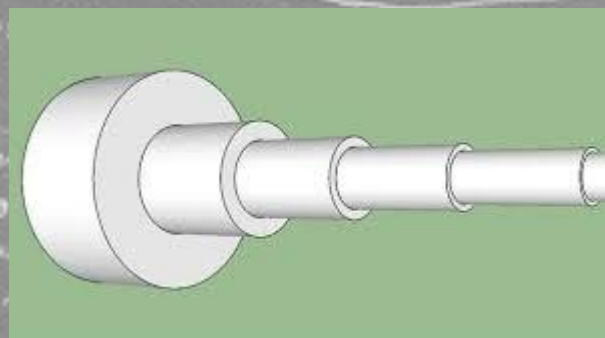
(The background contains a dense collection of handwritten physics notes and diagrams, including:

- Wave Optics:** $v = \frac{\omega}{k}$, $\lambda = \frac{2\pi}{k}$, $f = \frac{\omega}{2\pi}$, $n = \frac{c}{v}$, $n_1 \sin \theta_1 = n_2 \sin \theta_2$, $\theta_c = \sin^{-1} \frac{n_2}{n_1}$, $\Delta x = \frac{\lambda}{2} \sin \theta$, $\Delta x = \frac{\lambda}{2} (n_1 \pm n_2) \sin \theta$.
- Interference:** $\Delta L = \frac{d}{2} \sin \theta$, $\Delta L = \frac{d}{2} \sin \theta$, $\Delta L = \frac{d}{2} \sin \theta$.
- Thin Films:** $2nt = m\lambda$, $2nt = (m + \frac{1}{2})\lambda$.
- Ray Optics:** $\frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i}$, $M = \frac{h_i}{h_o} = \frac{d_i}{d_o}$.
- Thermodynamics:** $Q = mc\Delta T$, $Q = \sigma \epsilon A T^4$, $P = \sigma \epsilon A T^4$.
- Electromagnetism:** $E = \frac{1}{4\pi\epsilon_0} \frac{q}{r^2}$, $B = \frac{\mu_0}{4\pi} \frac{qv \sin \theta}{r^2}$.
- Diagrams:** Ray diagrams for lenses and mirrors, interference patterns, and circuit diagrams.

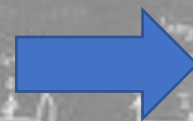
Voitsova Sophia
 ЗЛИСИ В1.2/2
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Introdacion.

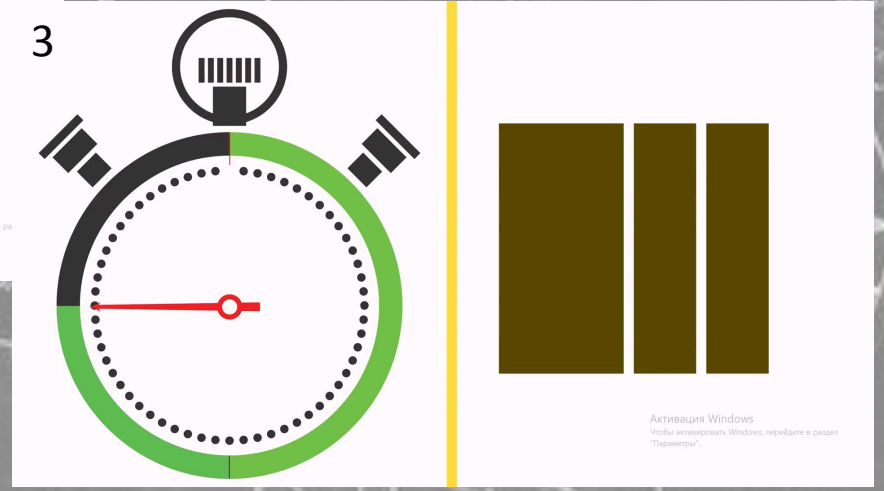
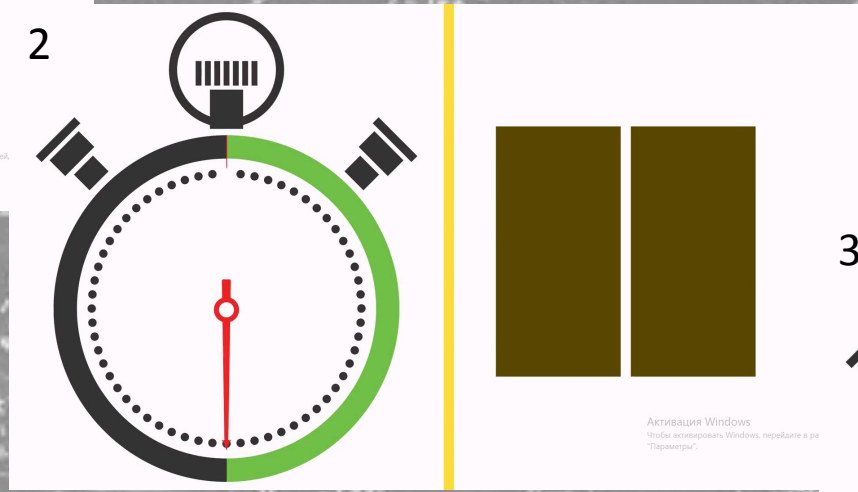
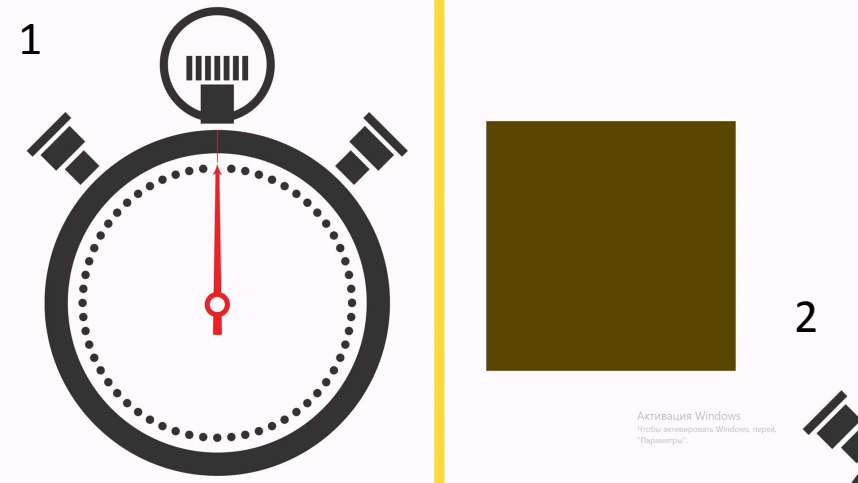
The Paradox of Gabriel's Horn.



What is a Gabriel's cake?



Gabriel's cake in two minutes



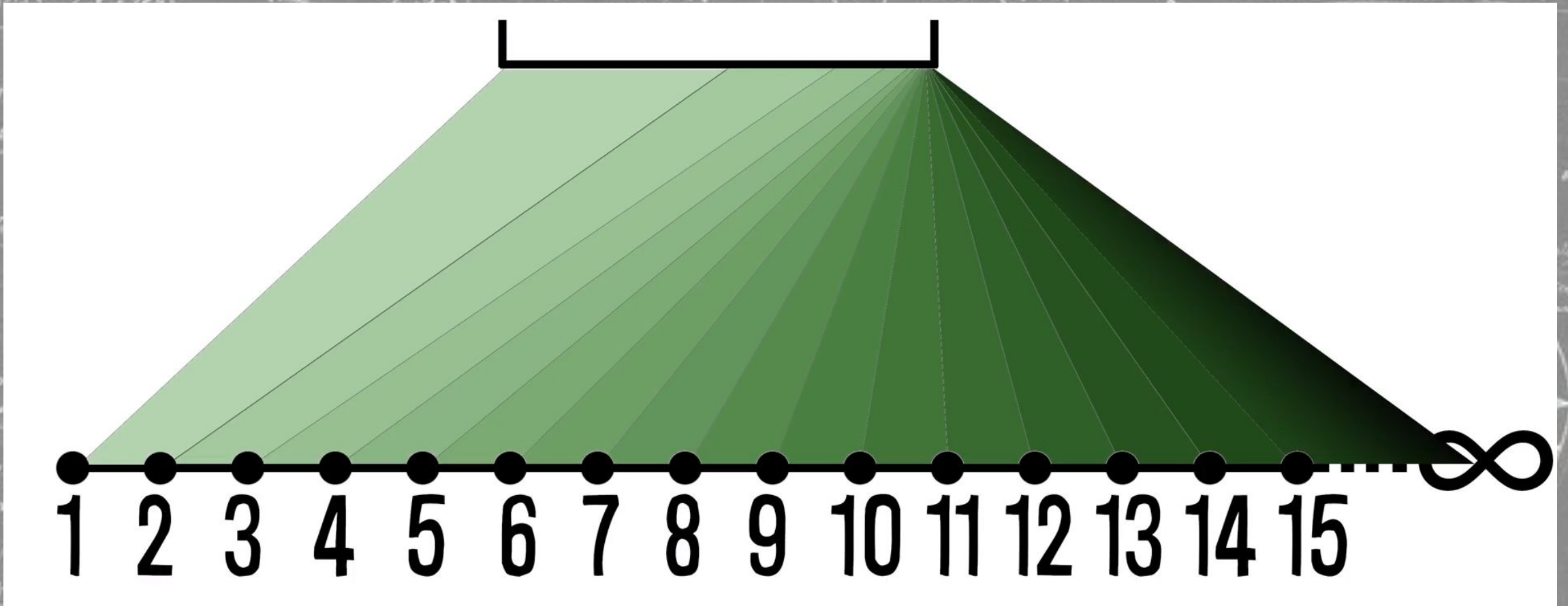
Активация Windows
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Supertask

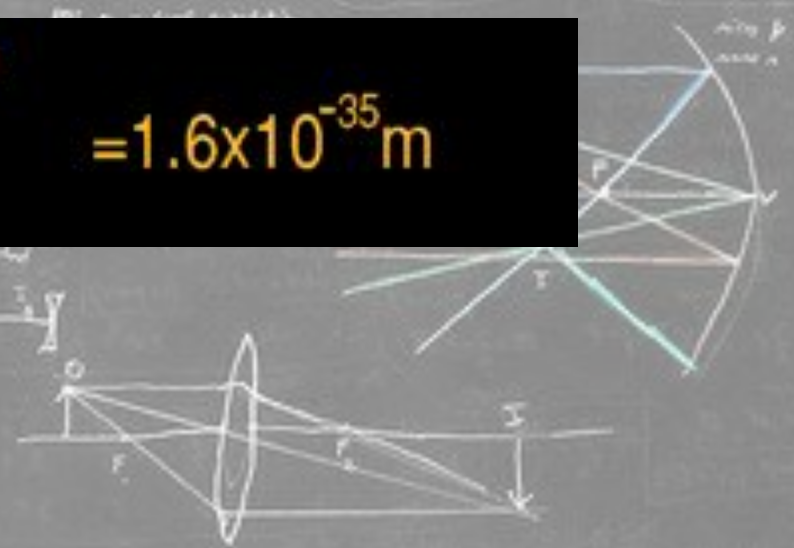
Infinitely actions in the limited period of time is a **SUPERTASK**.



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!

