

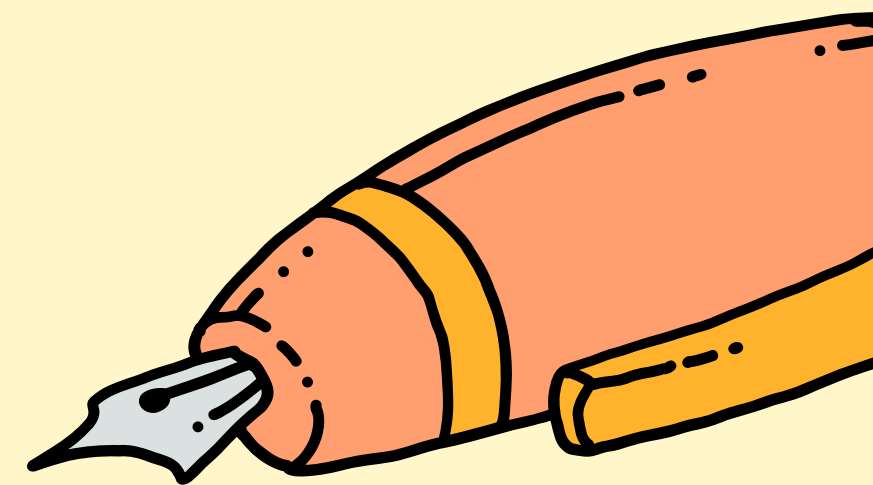
JAKKRIT SANGTAWEE

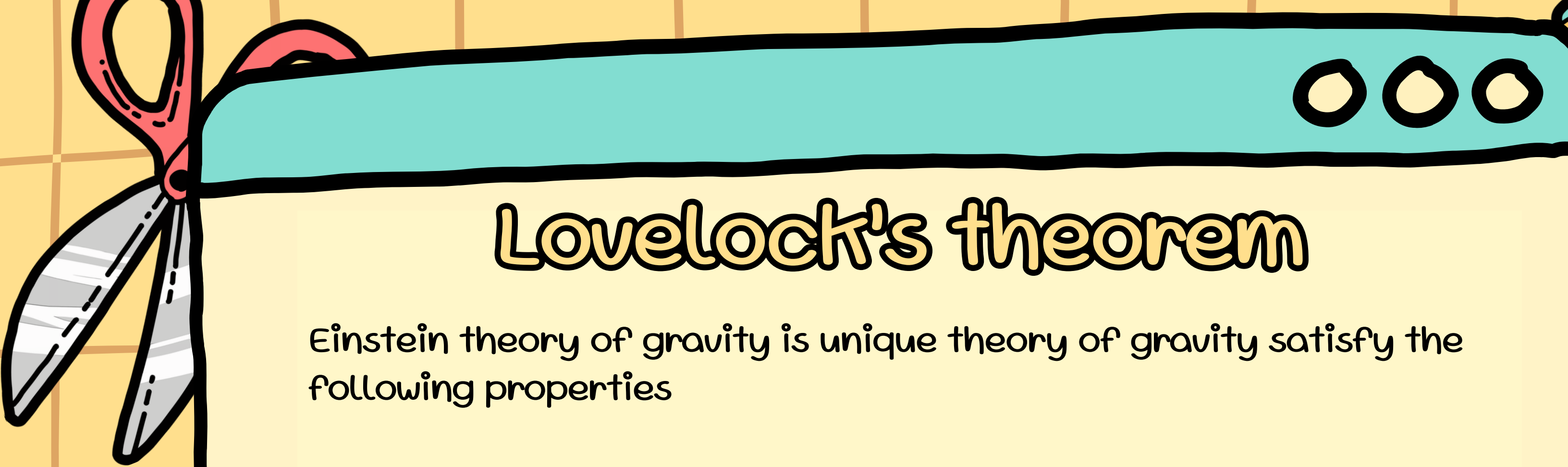
BANK

Institution : IF, Narasuan
University

Level : Ph.D.

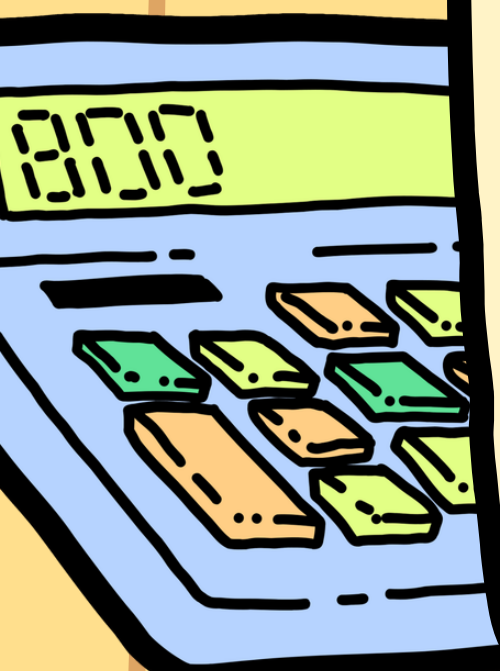
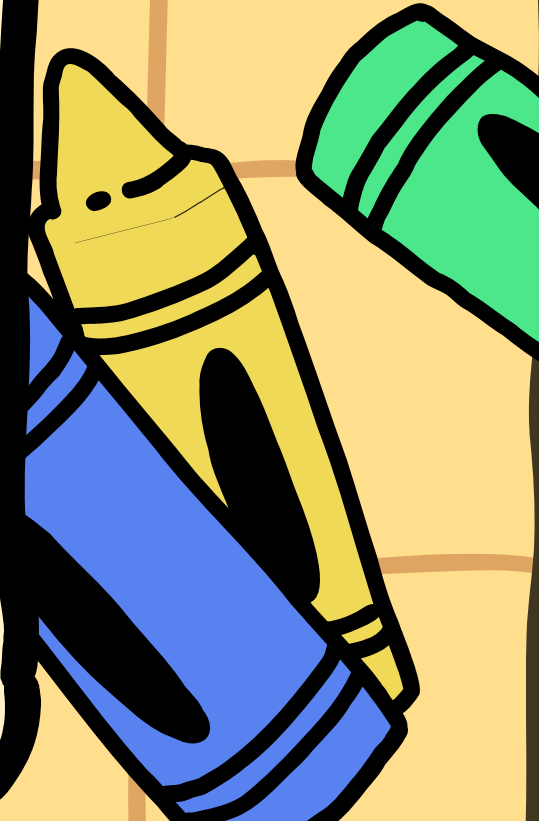
Research. : Two tensorial degrees of
freedom theories of
gravity

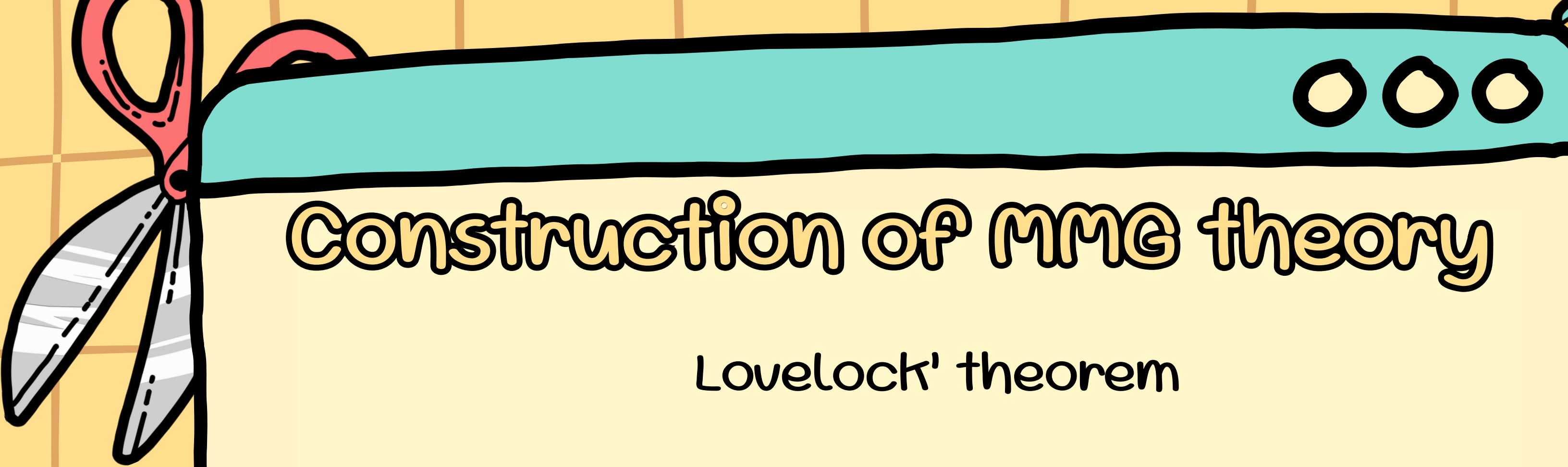




Lovelock's theorem

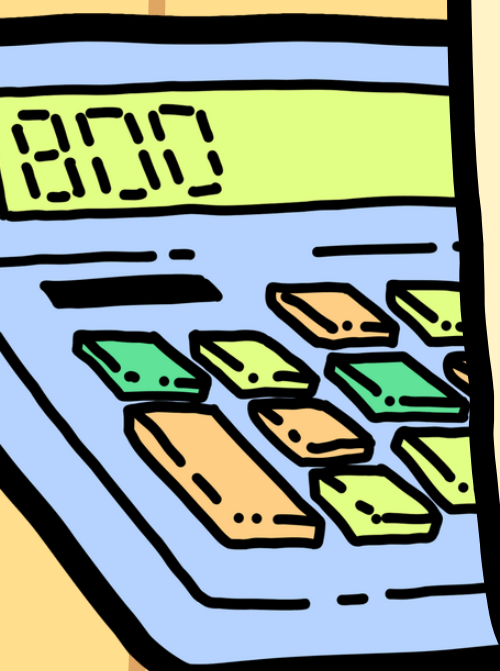
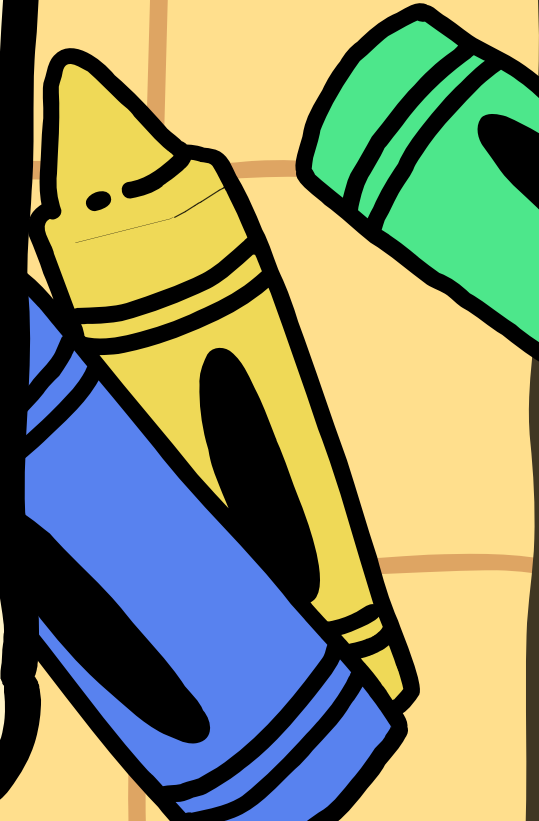
Einstein theory of gravity is unique theory of gravity satisfy the following properties

- ✓ The dynamical variable is metric tensor
 - ✓ The number of spacetime dimension is 4
 - ✓ The number of degrees of freedom is 2
 - ✓ the equation of motion is up to a second-order derivative
 - ✓ the theory is invariant under 4-dimensional diffeomorphism
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Construction of MME theory

Lovelock' theorem

- ✓ The dynamical variable is metric tensor
 - ✓ The number of spacetime dimension is 4
 - ✓ The number of degrees of freedom is 2
 - ✓ the equation of motion is up to a second-order derivative
 - ✗ the theory is invariant under 4-dimensional diffeomorphism
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Example TTDOF theories of gravity

- ✓ Cuscuton theory
- ✓ Minimally modified gravity theory
- ✓ Two tensorial spatially covariant theory of gravity