I took most of the details of what's below from
https://profoundphysics.com/einstein-field-equations-fully-written-out-what-do-they-look-like-expanded/

Note: I firmly and persistently ***REFUSE*** to use Einstein's greatest blunder (his own words!),
i.e. that ~~rather silly~~ completely stupid *concoction* called the cosmo-illogical constant.

Einstein Field Equation:

$$G_{\mu\nu} = \kappa T_{\mu\nu}$$

Doesn't seem too complicated, does it?

Well, we have: $\kappa = \frac{8\pi G}{c^4}$

hence: $G_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$

Moreover, we have: $G_{\mu\nu} = R_{\mu\nu} - \frac{1}{2} R g_{\mu\nu}$

which renders: $R_{\mu\nu} - \frac{1}{2} R g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$

Please be aware: both μ and ν are indices ranging from 0 to 3. It's about four dimensional spacetime. We have (x, y, z, t), but it's more convenient to use (t, x, y, z), or, using indices, (x_0, x_1, x_2, x_3). This means we actually have:

$$\begin{bmatrix} G_{00} & G_{01} & G_{02} & G_{03} \\ G_{10} & G_{11} & G_{12} & G_{13} \\ G_{20} & G_{21} & G_{22} & G_{23} \\ G_{30} & G_{31} & G_{32} & G_{33} \end{bmatrix} - \frac{1}{2} R \begin{bmatrix} g_{00} & g_{01} & g_{02} & g_{03} \\ g_{10} & g_{11} & g_{12} & g_{13} \\ g_{20} & g_{21} & g_{22} & g_{23} \\ g_{30} & g_{31} & g_{32} & g_{33} \end{bmatrix} = \frac{8\pi G}{c^4} \begin{bmatrix} T_{00} & T_{01} & T_{02} & T_{03} \\ T_{10} & T_{11} & T_{12} & T_{13} \\ T_{20} & T_{21} & T_{22} & T_{23} \\ T_{30} & T_{31} & T_{32} & T_{33} \end{bmatrix}$$

which comprises 16 equations, but, luckily, each block is symmetrical w.r.t. its diagonal, leaving us with merely 10 equations to be solved. But let's concentrate on $G_{\mu\nu}$, which expands to:

$$G_{\mu\nu} = \frac{1}{2} g^{\alpha\beta} \partial_\alpha \partial_\mu g_{\beta\nu} + \frac{1}{2} g^{\alpha\beta} \partial_\alpha \partial_\nu g_{\mu\beta} - \frac{1}{2} g^{\alpha\beta} \partial_\alpha \partial_\beta g_{\mu\nu} - \frac{3}{2} g^{\alpha\beta} \partial_\mu \partial_\nu g_{\alpha\beta}$$
$$+ \frac{1}{4} g^{\beta\lambda} g^{\alpha\rho} \partial_\nu g_{\alpha\lambda} \partial_\mu g_{\rho\beta} - \frac{1}{2} g^{\beta\lambda} g^{\alpha\rho} \partial_\alpha g_{\rho\lambda} \partial_\mu g_{\beta\nu} - \frac{1}{2} g^{\beta\lambda} g^{\alpha\rho} \partial_\alpha g_{\rho\lambda} \partial_\nu g_{\mu\beta}$$
$$+ \frac{1}{4|g|} g^{\alpha\beta} \partial_\beta |g| \partial_\nu g_{\mu\alpha} - \frac{1}{4|g|} g^{\alpha\beta} \partial_\beta |g| \partial_\alpha g_{\mu\nu} - \frac{1}{4|g|} g^{\alpha\beta} \partial_\beta |g| \partial_\mu g_{\alpha\nu}$$

However, this uses the so-called *Einstein summation convention*. We must expand each term over all indices that appear twice and then add them all up.

Example:

$$p^{\alpha\beta} q_{\alpha\beta} = \sum_{\alpha=0}^{3} \sum_{\beta=0}^{3} p^{\alpha\beta} q_{\alpha\beta}$$
$$= p^{00} q_{00} + p^{01} q_{01} + p^{02} q_{02} + p^{03} q_{03}$$
$$+ p^{10} q_{10} + p^{11} q_{11} + p^{12} q_{12} + p^{13} q_{13}$$
$$+ p^{20} q_{20} + p^{21} q_{21} + p^{22} q_{22} + p^{23} q_{23}$$
$$+ p^{30} q_{30} + p^{31} q_{31} + p^{32} q_{32} + p^{33} q_{33}$$

which has to be done for each and every term of $G_{\mu\nu}$.

For ***example***, the 5th term becomes:

$$\frac{1}{4}\sum_{\beta=0}^{3}\sum_{\alpha=0}^{3}\sum_{\lambda=0}^{3}\sum_{\rho=0}^{3} g^{\beta\lambda} g^{\alpha\rho}\partial_\nu g_{\alpha\lambda}\partial_\mu g_{\rho\beta}$$

$= 256$ things to be added up.

As given above, $G_{\mu\nu}$ has ten terms,
yielding $4+4+4+4+256+256+256+4+4+4=796$
things to be accumulated, yielding just one of the ten! $G_{\mu\nu}$ values.

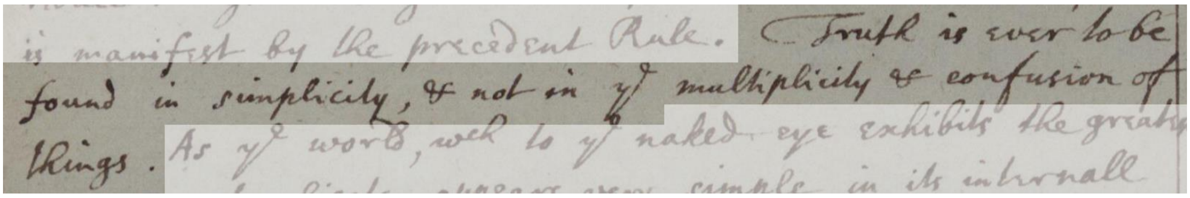
And then we have that strange looking ∂_i , where i represents any of those Greek letters. It indicates the partial derivative with respect to: x^i and that's *not* x to the power of i . There exist so-called *covariant* and *contravariant* forms and this one is the contravariant version of the i^{th} x variable (either t, x, y, or z).

We ultimately have to deal with 10 possibly very ugly differential equations of the size indicated above in order to describe (*not explain*) gravitation the Einsteinian way.

But the force seems to be with us. Karl Schwarzschild was able to find a solution within a few months after Einstein presented his behemoth. We usually call it a black hole. But this Schwarzschild solution is not in agreement with reality, despite what is claimed by most cosmologists. They all have a severe confirmation bias.

See https://henk-reints.nl/astro/HR-flawed-black-hole-equation.pdf
& https://henk-reints.nl/astro/HR-BH-images.pdf .

Sir Isaac Newton:


is manifest by the precedent Rule. Truth is ever to be found in simplicity, & not in ye multiplicity & confusion of things. As ye world, wch to ye naked eye exhibits the greatest

Truth is ever to be found in simplicity, & not in the multiplicity & confusion of things.

Untitled Treatise on Revelation (section 1.1), Rule 9, fol.14r

https://www.nli.org.il/en/manuscripts/NNL_ALEPH990026832700205171//NLI#$FL9002307

In https://henk-reints.nl/astro/HR-acceleration-gravitation-geodesic.pdf , I substantiate that the **Einstein Field Equation (i.e. his general theory of relativity) is wrong. It does not correctly describe the reality we observe in the cosmos, despite many claims of it being confirmed.**

https://henk-reints.nl/u/
https://henk-reints.nl/u/notensors.html

