

Re: ATTENTION MATHEMATICIANS WHO UNDERSTAND PARABOLAS:

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- *From:* NoEinstein <noeinstei@xxxxxxxxxxxxxxxx>
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On Sep 3, 4:28 pm, "Timo A. Nieminen" <t...@xxxxxxxxxxxxxxxx> wrote:

On Wed, 3 Sep 2008, NoEinstein wrote:

The following question, correctly answered, can change the course of science forever!

The distance vs. time equation for dropped objects near Earth's surface, $d = t^2$, can be plotted as an inverted parabola. The velocity of any dropped object will correspond to the SLOPE of the parabola at the point in question. And the slope, d/t , is the distance fallen divided by the time of such fall at the point in question. With your thinking caps firmly in place: Is the rate of change of the SLOPE of a parabola increasing linearly or exponentially?

Only those who can answer that one question should reply.

It could be said that the above question, correctly answered, did change the course of science forever. See, e.g., the works of Galileo Galilei.

The distance vs time for freely falling objects near the Earth's surface is

$$d = g/2 t^2 \text{ (we're hardly going to measure the distance in } s^2, \text{ are we?)}$$

d increases quadratically wrt t .

The slope is dd/dt (not d/t , but note that in this special case, the slope is $2d/t$ – a result which is, physically, a consequence of the average velocity under constant acceleration being $(v - v_0)/2$, and $v_0 = 0$), so

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$$v = gt$$

which increases linearly wrt t , as we might expect, since we have assumed that the acceleration is constant.

The rate of change of the slope (which is, physically, the acceleration), which is what you actually asked about, is $d^2 d/dt^2$, so

$$a = g$$

which is constant, increasing not at all, neither linearly or exponentially.

I have answered your question. Perhaps you can answer mine: how is this, with its application to physics known since Galilei, regularly taught to schoolchildren, supposed to change the course of science forever?

(And a question for anyone genuinely interested who might for some bizarre reason be reading this thread, when does the mathematics date to? Conic sections are old maths, but were rates of change dealt with in the early works?)

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Timo

Dear Timo: :-) Where have you been, man?! Your reply is exactly correct! A very minor tweak that I'd make is to explain that the numerical velocity value * "at the end of second one" (*which is the convention for defining the uniform acceleration acting on a body) becomes the "unit" by which an object's velocity under a uniform acceleration will be increasing as a function of the time in seconds.

The significance of the above to science is that MOMENTUM, $F = mv$, or the force of impact of speeding unit weight objects, increases in direct proportion to the velocity, or linearly. A conflicting formula to the latter is the 1830 equation of Coriolis for kinetic energy: $KE = 1/2mv^2$. The latter has the KE increasing exponentially with respect to velocity. For falling objects traveling at acceleration 'g', they are being acted upon by a uniform force that matches their static weight. Uniform forces cause uniform or linear increases in velocity, and uniform or linear increases in impact force.

Since KE supposes to be a measure of force of impact (as in a pendulum), then, to satisfy the Law of the Conservation of Energy, the accruing energy being imparted by gravity, must MATCH the KE of that same object at impact. Since an exponential KE increase doesn't match a LINEAR increase in the accruing force being imparted by gravity, then Coriolis's 1830 law, still being shown in texts, violates the Law of the Conservation of Energy! Albert Einstein used Coriolis's formula as the basis of his $E = mc^2$, which also violates the Law of

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the Conservation of Energy. Space-time can't save the latter formula, because I have found that M-M simply lacked a CONTROL light course. There has never been a justification for accepting Lorentz's "rubber rulers" explanation for the nil result of M-M. And the latter is what gave us Einstein's mistaken notions about space-time.

Timo: In one fell swoop, by confirming that the velocity of falling objects is increasing linearly, you have just UPHELD my disproofs of Einstein theories of relativity! Thanks! NoEinstein

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