Teacher notes

Physics and Math humor

I learned some of these from the proverbial grapevine and most from the wonderful book *Comic Sections* by Desmond Machale.

- The great Theodore von Karman (one of the four Martians) had teaching positions at Aachen in Germany and Caltech in the US. After a trip to the US from Germany he went to class using the notes he had used for the same lecture in Aachen the day before. About half-way through the lecture, he realized to his horror that he was speaking in German. He began to apologize when a student stood up and said: "It's ok professor, we understood as much from this lecture as from any other that you gave in English".

- Albert Einstein once visited the University of Chicago and was taken for a tour of the labs. The physics graduate students proudly showed him their experiments. To one of them Einstein offered a suggestion for improvement, but the student immediately explained why that suggestion would not work. Einstein shook his head and said sadly, "My ideas are never any good".

- When Bertrand Russel's first child was born, he was asked, "Is it a boy or a girl?" He answered, "Yes".

- During a lecture by Dirac a member of the audience raised his hand, pointed to an equation Dirac had just written and asked, "Can you explain that?" Dirac said, "Yes", and went on with the lecture.

- When Einstein first came to the US, he gave a talk at Princeton. The lecture hall was full to the brim with people who came to see the great scientist. After the lecture Einstein said, "I didn't know that so many Americans were interested in tensor calculus."

- The following list of Things to Do, was found on G. H. Hardy's desk:
    a. Prove the Riemann hypothesis.
    b. Find a proof of the non-existence of God that will convince the man in the street.
    c. Murder Mussolini.

- Bethe (and Heitler) had calculated the details of pair production (an electron and a positron). One of the problems Pauli gave Weisskopf was to do the same thing for the production of a spin-zero particle and its anti-particle. Weisskopf asked Bethe for advice, which he got, and then asked how long Bethe thought it would take to do the calculation. Bethe said it would take him 3 days but would take 3 weeks for Weisskopf. Weisskopf did indeed take 3 weeks but got the wrong result.

- The MIT mathematician Norbert Wiener was famous for his absentmindedness. One morning his wife said, "Now remember Norbert, we are moving house today so don't come back to this house after work". Norbert said, "Of course dear". In the evening Norbert is back at the old house, the house is dark and his key doesn't work. He then remembers that he had to go to the new house but had no idea where that was. He then sees a young girl at the garden gate and asks, "Hey little girl, do you know where the Wieners moved to?". And the girl answered, "Yes dad, mom sent me to get you".
(Years later Wiener's daughter was asked if this incident was true. She replied, "Well, not exactly".)

- It is true that every teacher of mathematics has had the following experience when meeting old students: "Hi professor, it is good to see you again, I don't remember a single thing of what you taught us but your stories about Wiener always made us laugh!"

- Wiener was stopped on campus by a graduate student who asked him a question. Wiener answered the question with a 60-minute lecture after which he said, "Can I ask you a question? When you stopped me, was I going this way or that way?" "That way", said the student (pointing away from the cafeteria). "Good", said Wiener, "that means I had lunch".

- A final Wiener story! Wiener was on a train, but he lost his ticket. Agitated, he ran to the train conductor to explain his problem. The conductor said not to worry, there was no problem at all, he would not be fined. "You don't understand," said Wiener. "I must have the ticket, otherwise I have no idea where I am supposed to be going!"

- A newspaper reporter once asked Einstein if he always carried a notebook with him to write down his ideas. "What ideas?" replied Einstein. "I only had one."

- In an examination a student was asked to discuss the Einstein statement that *space is curved*. The student wrote: "We all know what space is. We all know what curved is. The crux of the matter is what does Einstein mean by the word *is*."

- The math teacher at a high school got sick right before final exams so the school arranged for a professor at the local university to take over. The professor walked into the class and asked, "What are you studying now?". The students said "Probability." "Good" said the professor and said, "Let *B* be a Borel field …. ."

- Lord Kelvin was having lunch with his wife, deeply absorbed thinking about a problem, while his wife was planning an excursion in the afternoon. At some point Kelvin looks up and says, "When does the dissipation of energy begin?"

- The great Rutherford is famous for his quotes. We gave some in the textbook. Here are a few more, not all politically correct!

    o I've just finished reading some of my early papers, and you know, when I'd finished, I said to myself, "Rutherford, my boy, you used to be a damned clever fellow."

    o The only possible conclusion the social sciences can draw is: some do, some don't.

    o If your experiment needs statistics, you ought to have done a better experiment.

    o All of physics is either impossible or trivial. It is impossible until you understand it, and then it becomes trivial.

    o All science is either physics or stamp collecting.

    o The energy produced by the breaking down of the atom is a very poor kind of thing. Anyone who expects a source of power from the transformation of these atoms is talking moonshine.

- Thomas Edison once hired a mathematician to help him in the lab. Edison gave a lamp to the mathematician and asked him to calculate its volume. The young man did some calculations to estimate the equation of the outline of the lamp and then used calculus to calculate the volume of revolution. He then gave the result to Edison. Edison said, "You are off by 30%. I calculated the volume by opening the lamp and filling it with water."

- A man wanted to find out whether a mathematician, a physicist or an engineer was the smartest. So, he asked them to measure the height of a pole about 3 m tall. The mathematician said, "I cannot reach the top, so it is impossible to answer you." The physicist said that he, too, could not reach the top so any answer he gave would be too inaccurate to be of any use. The engineer looked at the pole and saw that by turning a winch he could rotate the pole, so it became horizontal. He then measured the length. The mathematician looked at the physicist, and shaking his head said, "Engineers, you ask them to measure the height and they measure the width."

- Hilbert was asked what would be the first question he would ask if he came back to life 500 years later. Hilbert would ask, "Has the Riemann hypothesis been proven?"

- From the elementary school classroom:

  Teacher: There are 10 crows sitting on a wall. I shoot one. How many are left?
  Johnny: None.
  Teacher: You don't know much arithmetic Johnny.
  Johnny: You don't know much about crows sir.

- Einstein's wife was being shown around a huge observatory. She saw a large telescope and asked what it was used for. The director said it was used to discover the structure of the Universe. "Really?" she said. "By husband uses the back of envelopes for that."

- According to Kelvin, a mathematician is someone to whom 2 + 2 = 4 is as obvious as
$$\int_{-\infty}^{\infty} e^{-x^2}\, dx = \frac{\sqrt{\pi}}{2}\,.$$

  According to Littlewood, many things are not accessible to human intuition, $\int_{-\infty}^{\infty} e^{-x^2}\, dx = \frac{\sqrt{\pi}}{2}$, for example.

- Living with mathematicians can be difficult. This story confirms this. A mathematician and his wife were struggling to move a piece of furniture upstairs. They turned it every which way up the staircase without success. The mathematician went to his desk and after a while came up with a three-dimensional geometric proof that the task was impossible. By the time he was done his wife managed to move the furniture upstairs by herself.

- Apologies for this sexist story but read to the end. A mathematician and a physicist were put at opposite corners of a square 20 m wide. A voluptuous girl is at the third corner. The men are allowed to approach the girl in bounces, 10 m for the first and then half of the previous one for the others. The mathematician realizes he must bounce an infinite number of times, so he does not even try. The physicist starts bouncing right away saying that after a few bounces he will be close enough for all practical purposes. A female student who heard this story said no self-respecting girl would stay at the corner of the square waiting for a bouncing idiot to approach her.

- A statistician spent all night dreaming about the number 7. Next morning, he was reading his newspaper and at seven past seven he saw that the seventh horse in the seventh race was called 77. This was too good a chance to miss so he decided to bet 77 dollars on the horse. The horse came seventh.

- A mathematics graduate student came up with a statement about a number that depended on a natural number n. Unable to make theoretical progress he used the most powerful computers available at the time to calculate the numbers for n = 1, 2, 3, 4 and 5. It turned out that none other than John von Neumann (the first of the four Martians) was visiting the next day so he told him of his problem. Neumann said it would make sense to calculate the numbers for n = 1, 2 and 3 and quickly did so correctly. The student then gave the answer for n = 4 and got a cold look from Neumann. Neumann then started calculating for n = 5 and the student, seeing that he had a chance to impress the genius of the century pretended to calculate it too. Thirty seconds before Neumann he yells the answer. "How the hell did you do this so quickly?" blurted Neumann.

- The great Paul Eordös found himself at a conference and ran into another mathematician. "Where are you from" asked Eordös. "Vancouver" answered the man. "Then you must know my good friend Elliot Mendelson." The man said, "*I am* your good friend Elliot Mendelson!"

- Cardano was also famous as an astrologer who could predict the future. In fact, he predicted the date of his own death. When that day came, he committed suicide rather than lose face.

- Hoyle and Bondi (along with Gold) are famous for the Steady State theory of cosmology. To save time they used to do calculations in units in which most physical constants had the value 1 and then applied a conversion factor at the end. "What is the conversion factor?" asked Bondi. Hoyle said it was 10^{60}. Bondi then said, "Do I multiply or divide?"

- Newton had the reputation of being a great astrologer who could predict the future. A woman who lost her gold ring was pestering him for a week asking for his help in finding the ring. At long last, and to get rid of her, Newton told her to take 100 steps down a particular alley way. She did and she found her ring!

- An engineer, a physicist and a mathematician were arguing who is the smartest. A man gave them a task to settle the issue. They would each enter a dark room containing a can of tuna fish. The first person to find and open the can would be the smartest. The engineer tries first. He gropes in the dark, finds the can and smashes it open against a wall. The physicist gropes in the dark, finds the can, does some quick calculations of speed and angles, and throws it against a wall opening the can. Hours go by and the mathematician is still in the room. The next day someone put his ear against the door and from the back of the room he heard a vague, weak voice saying, "Let C stand for an open can of tuna fish."

- A school administrator sent an email on a Sunday morning asking teachers to prepare for their action research projects, catch up on their emails and do their lesson plans for the week. This is because, she said, teachers have a lot of spare time on Sundays. She got this reply from the Physics teacher that became viral at the school:

  Dear M.A.
  For most of us, Sunday is a day of rest. We wake up late, take a very long bath, put some comfortable clothes on and make our way down to the Sweet Habit Café for some brunch. We stay there sipping coffee, watching the beautiful people go by. An afternoon nap is not out of the question and if the mood strikes, we may even venture down to the stadium and watch a football game. Especially today when AEK will become champions for the first time after many years. After the game we will gather at the Brown Sugar Café and, sipping Taliskers and Lagavulins, we will scientifically analyze the game. It is now time to go to bed. Tomorrow, we will look at our emails, plan our lessons and attend our action research.

My all-time favorite:

The famous mathematician David Hilbert received a letter from a promising young mathematician in which the young man claimed he had proven the Riemann hypothesis. Alas, Hilbert found an error midway through the proof that invalidated the entire argument. Months later, the young man died tragically in an accident. Hilbert felt obliged to attend the funeral service and started saying a few words by the graveside. He spoke of the young man's pleasant personality and his obvious talent in mathematics. He then went on saying that even though his proof of the Riemann hypothesis was in error, perhaps someday a proof would be found along those lines. "In fact," he went on with eyebrows raised, "let $f(z)$ be a complex valued function of the variable z, and consider … ."