

# Mathematics Jokes

## You Might Be a Mathematician if...

you are fascinated by the equation  $e^{i\pi} - 1 = 0$ .  
you know by heart the first fifty digits of  $\pi$ .  
you have tried to prove Fermat's Last Theorem.  
you know ten ways to prove Pythagoras' Theorem.  
your telephone number is the sum of two prime numbers.  
you have calculated that the World Series actually diverges.  
you are sure that differential equations are a very useful tool.  
you comment to your wife that her straight hair is nice and parallel.  
when you say to a car dealer "I'll take the red car or the blue one" you must add "but not both of them."

## Pick-Up Lines to use on Mathematics Chicks

- You fascinate me more than the Fundamental Theorem of Calculus.
- Are you a deriveable function? Because I'd like to be tangent to your curves!
- You and I would add up better than a Riemann sum.
- My love for you is a monotonic increasing function of time.
- Wanna come back to my room and see my copy of Euclid's "Elements"?
- I am equivalent to the Empty Set when you are not with me.

## The Dictionary: what mathematics professors say and what they mean by it.

*Clearly:* I don't want to write down all the "in-between" steps.

*Trivial:* If I have to show you how to do this, you're in the wrong class.

*It can easily be shown:* No more than four hours are needed to prove it.

*Check for yourself:* This is the boring part of the proof, so you can do it on your own time.

*Hint:* The hardest of several possible ways to do a proof.

*Brute force:* Four special cases, three counting arguments and two long inductions.

*Elegant proof:* Requires no previous knowledge of the subject matter and is less than ten lines long.

*Similarly:* At least one line of the proof of this case is the same as before.

*Two line proof:* I'll leave out everything but the conclusion, you can't question 'em if you can't see 'em.

*Briefly:* I'm running out of time, so I'll just write and talk faster.

*Proceed formally:* Manipulate symbols by the rules without any hint of their true meaning.

*Proof omitted:* Trust me, It's true.

A physicist, an engineer and a mathematician were asked how much three times three is.

The engineer grabbed his pocket calculator, eagerly pressed a couple of buttons and announced: "9.0000".

The physicist made an approximation (with an error estimate) and said: "9.00 +/- 0.02".

The mathematician took a piece of paper and a pencil and sat quietly for half an hour. He then returned and proudly declared: There is a solution and I have proved that it is unique!

A physicist, an engineer and a mathematician were all in a hotel sleeping when a fire broke out in their respective rooms. The physicist woke up, saw the fire, ran over to her desk, pulled out her CRC, and began working out all sorts of fluid dynamics equations. After a couple minutes, she

threw down her pencil, got a graduated cylinder out of his suitcase, and measured out a precise amount of water. She threw it on the fire, extinguishing it, with not a drop wasted, and went back to sleep. The engineer woke up, saw the fire, ran into the bathroom, turned on the faucets full-blast, flooding out the entire apartment, which put out the fire, and went back to sleep. The mathematician woke up, saw the fire, ran over to his desk, began working through theorems, lemmas, hypotheses, you-name-it, and after a few minutes, put down his pencil triumphantly and exclaimed, "I have *proven* that I *can* put the fire out!" He then went back to sleep.

A physicist and a mathematician are in the faculty lounge having a cup of coffee when, for no apparent reason, the coffee machine bursts into flames. The physicist rushes over to the wall, grabs a fire extinguisher, and fights the fire successfully. The same time next week, the same pair are there drinking coffee and talking shop when the new coffee machine goes on fire. The mathematician stands up, fetches the fire extinguisher, and hands it to the physicist, thereby reducing the problem to one already solved...

Similarly, a mathematician, a physicist and an engineer are each given 50 pounds to measure the height of a building. The mathematician buys a ruler and a sextant, and by determining the angle subtended by the building a certain distance away from the base, he establishes the height of the building. The physicist buys a heavy ball and a stopwatch, climbs to the top of the building and drops the ball. By measuring the time it takes to hit the bottom, he establishes the height of the building. The engineer puts forty pounds into his pocket. By slipping the doorman the other ten, he establishes the height of the building.

In the high school gym, all the girls in the class were lined up against one wall, and all the boys against the opposite wall. Then, every ten seconds, they walked toward each other until they were half the previous distance apart. A mathematician, a physicist, and an engineer were asked, "When will the girls and boys meet?"

The mathematician said: "Never."

The physicist said: "In an infinite amount of time."

The engineer said: "Well... in about two minutes, they'll be close enough for all practical purposes."

An engineer, a physicist, and a mathematician are shown a pasture with a herd of sheep, and told to put them inside the smallest possible amount of fence. The engineer is first. He herds the sheep into a circle and then puts the fence around them, declaring, "A circle will use the least fence for a given area, so this is the best solution." The physicist is next. She creates a circular fence of infinite radius around the sheep, and then draws the fence tight around the herd, declaring, "This will give the smallest circular fence around the herd." The mathematician is last. After giving the problem a little thought, he puts a small fence around himself and then declares, "I define myself to be on the outside!"

An astronomer, a physicist and a mathematician were holidaying in Scotland. Glancing from a train window, they observed a black sheep in the middle of a field.

"How interesting," observed the astronomer, "All Scottish sheep are black!"

To which the physicist responded, "No, no! Some Scottish sheep are black!"

The mathematician gazed heavenward in supplication, and then intoned, "In Scotland there exists at least one field, containing at least one sheep, at least one side of which is black."

An engineer, a physicist and a mathematician find themselves in an anecdote, indeed an anecdote quite similar to many that you have no doubt already heard. After some observations and rough calculations the engineer realizes the situation and starts laughing. A few minutes later the physicist understands too and chuckles to himself happily as he now has enough experimental evidence to publish a paper. This leaves the mathematician somewhat perplexed, as he had observed right away

that he was the subject of an anecdote, and deduced quite rapidly the presence of humour from similar anecdotes, but considers this anecdote to be too trivial a corollary to be significant, let alone funny.

A mathematician and an engineer attend a lecture by a physicist. The topic concerns Kulza-Klein theories involving physical processes that occur in spaces with dimensions of 9, 12 and even higher. The mathematician is sitting, clearly enjoying the lecture, while the engineer is frowning and looking generally confused and puzzled. By the end the engineer has a terrible headache. At the end, the mathematician comments about the wonderful lecture.

The engineer says "How do you understand this stuff?"

Mathematician: "I just visualize the process."

Engineer: "How can you visualize something that occurs in 9-dimensional space?"

Mathematician: "Easy, first visualize it in N-dimensional space, then let N go to 9."

A mathematician, a biologist and a physicist are sitting in a street cafe watching people going in and coming out of the house on the other side of the street. First they see two people going into the house. Time passes. After a while they notice three persons coming out of the house.

The physicist: "The measurement wasn't accurate."

The biologists: "They have reproduced".

The mathematician: "If now exactly one person enters the house, then it will be empty again."

What is the difference between an engineer, a physicist, and a mathematician?

An engineer believes equations approximate the world.

A physicist believes the world approximates equations.

A mathematician sees no connection between the two.

A farmer, an engineer, and a physicist were all asked to build a chicken coop. The farmer says, "Well, last time I had so many chickens and my coop was so and so big and this time I have this many chickens so I'll make it this much bigger and that oughtta work just fine." The engineer tackles the problem by surveying, costing materials, reading up on chickens and their needs, writing down a bunch of equations to maximise chicken-to-cost ratio, taking into account the lay of the land and writing a computer program to solve. The physicist looks at the problem and says, "Let's start by assuming spherical chickens....".

A physicist, an engineer, and a statistician were out game hunting. The engineer spied a bear in the distance, so they got a little closer. "Let me take the first shot!" said the engineer, who missed the bear by three metres to the left. "You're incompetent! Let me try" insisted the physicist, who then proceeded to miss by three metres to the right. "Ooh, we *got* him!!" said the statistician.

One day a mathematician decides that he is sick of math. So, he walks down to the fire department and announces that he wants to become a fireman.

The firechief says, "Well, you look like a good guy. I'd be glad to hire you, but first I have to give you a little test." The firechief takes the mathematician to the alley behind the fire department which contains a dumpster, a spicket, and a hose.

The chief then says, "OK, you're walking in the alley and you see the dumpster here is on fire. What do you do?" The mathematician replies, "Well, I hook up the hose to the spicket, turn the water on, and put out the fire." The chief says, "That's great... perfect. Now I have to ask you just one more question. What do you do if you're walking down the alley and you see the dumpster is not on fire?"

The mathematician puzzles over the question for awhile and he finally says, "I light the dumpster on fire." The chief yells, "What? That's horrible! Why would you light the dumpster on fire?" The mathematician replies, "Well, that way I reduce the problem to one I've already solved."

A mathematician went insane and believed that he was the differentiation operator. His friends had him placed in a mental hospital until he got better. All day he would go around frightening the other patients by staring at them and saying "I differentiate you!" One day he met a new patient; and he stared at him and said "I differentiate you!", but for once, his victim's expression didn't change. Surprised, the mathematician fiercely stared at the new patient again and said loudly "I differentiate you!", but still the other man had no reaction. Finally, in frustration, the mathematician screamed out "I DIFFERENTIATE YOU!" The new patient calmly looked up and said, "You can differentiate me all you like: I'm  $e$  to the  $x$ ."

Proofs that all odd numbers greater than 1 are prime according to

Mathematician: 3 is prime, 5 is prime, 7 is prime and the rest follow by induction

Physicist: 3 is prime, 5 is prime, 7 is prime, 9 expected experimental error, 11 is prime, ...

Engineer: 3 is prime, 5 is prime, 7 is prime, 9 is prime, ...

"The reason that every major university maintains a department of mathematics is that it is cheaper to do this than to institutionalize all those people."

Three men are in a hot-air balloon. Soon, they find themselves lost in a canyon somewhere. One of the three men says, "I've got an idea. We can call for help in this canyon and the echo will carry our voices far." So he leans over the basket and yells out, "Hellllooooo! Where are we?" (They hear the echo several times.)

15 minutes later, they hear this echoing voice: "Hellllooooo! You're lost!!" One of the men says, "That must have been a mathematician." Puzzled, one of the other men asks, "Why do you say that?" The reply: "For three reasons. (1) he took a long time to answer, (2) he was absolutely correct, and (3) his answer was absolutely useless."

Physics professor is walking across campus, runs into Math Professor. Physics professor has been doing an experiment, and has worked out an empirical equation that seems to explain his data, and asks the Math professor to look at it.

A week later, they meet again, and the Math professor says the equation is invalid. By then, the Physics professor has used his equation to predict the results of further experiments, and he is getting excellent results, so he asks the Math professor to look again.

Another week goes by, and they meet once more. The Math professor tells the Physics professor the equation does work, "But only in the trivial case where the numbers are real and positive."

The functions are sitting in a bar, chatting (how fast they go to zero at infinity etc.). Suddenly, one cries "Beware! Derivation is coming!" All immediately hide themselves under the tables, only the exponential sits calmly on the chair.

The derivation comes in, sees a function and says "Hey, you don't fear me?"

"No, I'm  $e$  to  $x$ ", says the exponential self-confidently.

"Well" replies the derivation "but who says I differentiate along  $x$ ?"

Mathematicians are like Frenchmen: whatever you say to them, they translate it into their own language, and forthwith it means something entirely different.

Mathematics is made of 50 percent formulas, 50 percent proofs and 50 percent imagination.

There was a logician who saw a sign on his way to fish that read, "All the worms you want for \$1.00." He stopped his car and ordered \$2.00 worth.

## What is " $\pi$ "?

Mathematician:  $\pi$  is the ratio of the circumference of a circle to its diameter.

Engineer:  $\pi$  is about 22/7.

Physicist:  $\pi$  is 3.14159 plus or minus 0.000005

Computer Programmer:  $\pi$  is 3.141592653589 in double precision.

Nutritionist: You one track math-minded fellows, Pie is a healthy and delicious dessert!

## Top $\ln(e^{10})$ reasons why $e$ is better than $\pi$ .

10.  $e$  is easier to spell than  $\pi$ .
9.  $\pi \approx 3.14$  while  $e \approx 2.718281828459045$ .
8. The character for  $e$  can be found on a keyboard, but  $\pi$  sure can't.
7. Everybody fights for their piece of the  $\pi$ .
6.  $\ln(\pi^1)$  is a really nasty number, but  $\ln(e^1) = 1$ .
5.  $e$  is used in calculus while  $\pi$  is used in baby geometry.
4.  $e$  is the most commonly picked vowel in Wheel of Fortune.
3.  $e$  stands for Euler's Number,  $\pi$  doesn't stand for squat.
2. You don't need to know Greek to be able to use  $e$ .
1. You can't confuse  $e$  with a food product.

## Top ten reasons why $e$ is inferior to $\pi$

10.  $e$  is less challenging to spell than  $\pi$ .
9.  $e \approx 2.718281828459045$ , which can be easily memorized to its billionth place, whereas  $\pi$  needs "skills" to be memorized.
8. The character for  $e$  is so cheap that it can be found on a keyboard. But  $\pi$  is special (it's under "special symbols" in word processor programs.)
7. Pi is the bigger piece of pie.
6.  $e$  has an easy limit definition and infinite series. The limit definition of  $\pi$  and the infinite series are much harder.
5.  $e$  you understand what it is even though you start learning it late when you're in pre-calculus. But  $\pi$ , even after five or six years it's still hard to know what it really is.
4. People mistakenly confuse Euler's Number ( $e$ ) with Euler's Constant ( $\gamma$ ). There is no confusion with the one and only.
3.  $e$  is named after a person, but  $\pi$  stands for itself.
2. Pi is much shorter and easier to say than "Euler's Number".
1. To read pi, you don't have to know that Euler's name is really pronounced Oiler.

## How to prove it.

### *proof by example:*

The author gives only the case  $n = 2$  and suggests that it contains most of the ideas of the general proof.

### *proof by intimidation:*

"Trivial."

### *proof by vigorous handwaving:*

Works well in a classroom or seminar setting.

*proof by cumbersome notation:*

Best done with access to at least four alphabets and special symbols.

*proof by exhaustion:*

An issue or two of a journal devoted to your proof is useful.

*proof by omission:*

"The reader may easily supply the details"

"The other 253 cases are analogous"

"..."

*proof by obfuscation:*

A long plotless sequence of true and/or meaningless syntactically related statements.

*proof by wishful citation:*

The author cites the negation, converse, or generalization of a theorem from the literature to support his claims.

*proof by funding:*

How could three different government agencies be wrong?

*proof by eminent authority:*

"I saw Karp in the elevator and he said it was probably NP-complete."

*proof by personal communication:*

"Eight-dimensional colored cycle stripping is NP-complete [Karp, personal communication]."

*proof by reduction to the wrong problem:*

"To see that infinite-dimensional colored cycle stripping is decidable, we reduce it to the halting problem."

*proof by reference to inaccessible literature:*

The author cites a simple corollary of a theorem to be found in a privately circulated memoir of the Slovenian Philological Society, 1883.

*proof by importance:*

A large body of useful consequences all follow from the proposition in question.

*proof by accumulated evidence:*

Long and diligent search has not revealed a counterexample.

*proof by cosmology:*

The negation of the proposition is unimaginable or meaningless. Popular for proofs of the existence of God.

*proof by mutual reference:*

In reference A, Theorem 5 is said to follow from Theorem 3 in reference B, which is shown to follow from Corollary 6.2 in reference C, which is an easy consequence of Theorem 5 in reference A.

*proof by metaproof:*

A method is given to construct the desired proof. The correctness of the method is proved by any of these techniques.

*proof by picture:*

A more convincing form of proof by example. Combines well with proof by omission.

*proof by vehement assertion:*

It is useful to have some kind of authority relation to the audience.

*proof by ghost reference:*

Nothing even remotely resembling the cited theorem appears in the reference given.

*proof by forward reference:*

Reference is usually to a forthcoming paper of the author, which is often not as forthcoming as at first.

*proof by semantic shift:*

Some of the standard but inconvenient definitions are changed for the statement of the result.

*proof by appeal to intuition:*

Cloud-shaped drawings frequently help here.

## How mathematicians do it...

Combinatorists do it as many ways as they can.  
Combinatorists do it discretely.  
(Logicians do it) or [not (logicians do it)].  
Logicians do it by symbolic manipulation.  
Algebraists do it in groups.  
Algebraists do it in a ring.  
Algebraists do it in a field.  
Analysts do it continuously.  
Real analysts do it almost everywhere.  
Pure mathematicians do it rigorously.  
Topologists do it openly.  
Topologists do it on rubber sheets.  
Dynamicists do it chaotically.  
Mathematicians do it forever if they can do one and can do one more.

Cantor did it diagonally.  
Fermat tried to do it in the margin, but couldn't fit it in.  
Galois did it the night before.  
Möbius always does it on the same side.  
Markov does it in chains.  
Newton did it standing on the shoulders of giants.  
Turing did it but couldn't decide if he'd finished.

Q: What's purple and commutes?

A: An abelian grape.

Q: What's purple, commutes, and is worshiped by a limited number of people?

A: A finitely venerated abelian grape.

Q: Why did the mathematician name his dog "Cauchy"?

A: Because he left a residue at every pole.

Q: Why is it that the more accuracy you demand from an interpolation function, the more expensive it becomes to compute?

A: That's the Law of Spline Demand.

Q: What do a mathematician and a physicist [or engineer, or musician, or whatever the profession of the person addressed] have in common?

A: They are both stupid, with the exception of the mathematician.

Q: What do you call a teapot of boiling water on top of mount everest?

A: A high-pot-in-use

Q: What do you call a broken record?

A: A Decca-gone

Q: What do you get when you cross 50 female pigs and 50 male deer?

A: One hundred sows-and-bucks.

Q: Why did the chicken cross the Moebius strip?

A: To get to the other ... er, um ...

Q: What is the world's longest song?

A: "Aleph-nought Bottles of Beer on the Wall."

Q: What's yellow and equivalent to the Axiom of Choice.

A: Zorn's Lemon.

Q: What do you get if you cross an elephant with a zebra.

A: Elephant zebra sin theta.

Q: What do you get when you cross an elephant and a grape?

A: Elephant-grape-sin(theta)

Q: What do you get if you cross an elephant with a mountain climber.

A: You can't do that. A mountain climber is a scalar.

Q: What do you get when you cross an elephant with a banana?

A: Elephant banana sine theta in a direction mutually perpendicular to the two as determined by the right hand rule.

Q: What do you get when you cross a tsetse with a mountain climber?

A: Nothing, you can't cross a vector with a scalar.

Q: What do you get when you cross a mountain goat and a mountain climber?

A: Nothing. You cant cross two scalars.

Q: To what question is the answer "9W."

A: "Dr. Wiener, do you spell your name with a V?"

Q: What's non-orientable and lives in the sea?

A: Mobius Dick.

Q: What do you get when you put a spinning flywheel in a casket and turn a corner?

A: A funeral precession.

Q: What's big, grey, and proves the uncountability of the reals?

A: Cantor's Diagonal Elephant!

Q: What do you call a young eigensheep?

A: A lamb, duh!!!

Q: What goes "Pieces of seven! Pieces of seven!"?

A: A parroty error!!

Q: What did the circle say to the tangent line?

A: "Stop touching me!"

Q: What's yellow, linear, normed and complete?

A: A Bananach space.



Q: What's polite and works for the phone company?

A: A deferential operator.

Q: Mathematical Name for a Toilet Seat?

A: An ass-toroid

Q: Why didn't Newton discover group theory?

A: Because he wasn't Abel.

Q: How many numerical analysts does it take to screw in a light bulb?

A: 0.9973 after the first three iterations.

Q: How many topologists does it take to change a light bulb?

A: It really doesn't matter, since they'd rather knot.

Q: How many mathematicians does it take to screw in a lightbulb?

A: Just one, once you've managed to present the problem in terms he/she is familiar with.

Q: How many light bulbs does it take to change a light bulb?

A: One, if it knows its own Goedel number.

Q: How many mathematicians does it take to replace a light bulb?

A: None. The answer is intuitively implied.

Q: How many number theorists does it take to replace a light bulb?

A: Two. One to prove existence, and one to derive an abstract algorithm to do it.

Q: What is the shortest mathematicians joke?

A: Let epsilon be smaller than zero.

Q: Why mathematicians are afraid drive a car?

A: Because the width of the road is negligible comparing to its length.

## Poems

### "IF"

If you can solve a literal equation  
And rationalise denominator surds,  
Do grouping factors (with a transformation)  
And state the factor theorem in words;  
If you can plot the graph of any function  
And do a long division (with gaps),  
Or square binomials without compunction  
Or work cube roots with logs without mishaps.  
If you possess a sound and clear-cut notion  
Of interest sums with P and I unknown;  
If you can find the speed of trains in motion,  
Given some lengths and "passing-times" alone;  
If you can play with R (both big and little)  
And feel at home with l (or h) and Pi,  
And learn by cancellation how to whittle

Your fractions down till they delight the eye.

If you can recognise the segment angles

Both at the centre and circumference;

If you can spot equivalent triangles

And Friend Pythagoras (his power's immense);

If you can see that equiangularity

And congruence are two things and not one,

You may pick up a mark or two in charity

And, what is more, you may squeeze through,  
my son.

Aleph-null bottles of beer on the wall,

Aleph-null bottles of beer,

You take one down, and pass it around,

Aleph-null bottles of beer on the wall.

'Tis a favorite project of mine  
A new value of pi to assign.  
I would fix it at 3  
For it's simpler, you see,  
Than 3 point 1 4 1 5 9.

If inside a circle a line  
Hits the center and goes spine to spine  
And the line's length is "d"  
the circumference will be  
d times 3.14159

If  $(1+x)$  (real close to 1)  
Is raised to the power of 1  
Over x, you will find  
Here's the value defined:  
2.718281...

A mathematician named Klein  
Thought the Mobius Band was divine.  
Said he, "If you glue  
The edges of two  
You get a weird bottle like mine."

A challenge for many long ages  
Had baffled the savants and sages.  
Yet at last came the light:  
Seems old Fermat was right--  
To the margin add 200 pages.

A graduate student at Trinity  
Computed the square of infinity.  
But it gave him the fidgets  
To put down the digits,  
So he dropped math and took up divinity.

Pi goes on and on and on ...  
And e is just as cursed.  
I wonder: Which is larger  
When their digits are reversed?

A burleycue dancer, a pip  
Named Virginia, could peel in a zip;  
But she read science fiction  
and died of constriction  
Attempting a Moebius strip.

A mathematician confided  
That a Moebius strip is one-sided.  
You' get quite a laugh  
If you cut it in half,  
For it stay in one piece when divided.

In Arctic and Tropical Climes,  
The Integers, addition, and times,  
Taken (mod p) will yield,  
A full finite field,  
As p ranges over the primes.

If n in a Taylor series  
goes 2 to 11 by threes  
for  $x = 1$   
convergence is done  
'twixt zero and two, I believe.

A conjecture both deep and profound  
Is whether a circle is round.  
In a paper of Erdős  
Written in Kurdish  
A counterexample is found