

# 58 ANSWERS FOR DIVISION BY ZERO

BY

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## ABOUT

**58 Answers for Division by Zero** is about my Academic Review & Answers for Division by Zero questions, mostly based on this chart, in Quora forums:

### DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

**Scientific Method Used:** A Sequence Mathematical Method from  $1/3$  to  $1/0$

**Figure showing Division of a Quantity**

$1$	=	Quantity			
$\frac{1}{3}$	=	$\frac{1}{3} \leftrightarrow \frac{1}{3} \leftrightarrow \frac{1}{3}$	→	↔ = Separation or Movement	
$\frac{1}{2}$	=	$\frac{1}{2} \leftrightarrow \frac{1}{2}$		Division cannot occur without Separation (=Movement)	
$\frac{1}{1}$	=	VA ↔ 1	→	(Note the difference between $\frac{1}{1}$ & 1)	
$\frac{1}{0}$	=	VA ↔ 1		The difference is in the Separation The Movement leaves an empty space (= VA)	

The denominator determines the number of parts of the object.

Thus:

- $\frac{1}{3}$  determines the 3 parts
- $\frac{1}{2}$  determines the 2 parts
- $\frac{1}{1}$  determines the 1 part

Hence:

- $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part or Past of quantity

Please share this with friends

#### The Future and Past are Void

##### a) Future:

If time is slowed and yours isn't, your time will be faster than other people's time; therefore your time will be in the future of other people's/matter's time.  
If you move, you'll leave vacuum because it will take a longer time for air or any other matter to fill your space because its time has been slowed; hence the future is void.

##### b) Past:

If time is stopped and yours isn't, the time of every matter, will be in the past because their time has been stopped.  
If you move, you'll leave vacuum because no air or any other matter will fill your space because its time has been stopped; hence the past is void also.

#### Proving that Past and Future are Vacuum

##### i. Past:

When an object is moved from point A to B, point A becomes the past of point B because the object was (= past) in Point A and now (= present) is in point B; but point A is vacuum unless air or any other matter fills its space. This is because when the object moved from point A, an empty space (= vacuum) was formed (unless air or other matter fills this space).  
(nb Time = Distance/Speed)

##### ii. Future:

When one expects an object to move from point A to B, the object doesn't move to point B because it's just an expectation of the future; but if for some reason it moves to point B, the distance between point A to B becomes empty space (= vacuum) unless air or any other matter fills the space. Since any expectation of a latter time is the future, the distance between point A and B is the future at the lime the movement of the object was taking place.  
(nb Time= Distance/Speed)

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## INTRODUCTION

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Division by zero is the division of any number by zero. Many mathematicians agree that this calculation is undefined. As you will notice in my answers, a calculation can be undefined but not a number. Many mathematicians confuse the two aspects especially when it comes to division by zero.

There is a difference between a calculation and a number. Numbers help us to make calculations and not the vice-versa, that is, calculations don't help us to make or invent numbers - We need numbers first, before we can talk of a calculation. Numbers cannot be undefined, only calculations. Numbers fall under axioms/laws of mathematics. They are neither right nor wrong hence cannot be undefined. For example we cannot calculate a single number, we need at least two numbers to determine whether the calculation is possible or not.

I claim to have solved the division by zero calculation in 2012. I still hold to this claim till today. If you believe you can prove me wrong then let me know but I would advise you go through the answers in this document first.

### **A mathematics professor**

A mathematics professor may say mathematics is an abstract subject hence movement does not exist.

First of all, this statement is false because mathematics is both abstract (= Pure Mathematics) and concrete (= Applied Mathematics). See my **Academic Review** on the next page for a discussion on this matter

### **Did you know that these two statements are similar?**

1) It's wrong even if it has been proven right.

2) It's right even if it has been proven wrong.

Both statements are based on strong beliefs and not concrete facts.

What leads people to think in these kinds of extremes is continuous lies from people in authority. Unfortunately when truth is told to them they will still not believe it because they will assume it's the same old lies.

To me this is counter-productive and I believe I may be a victim of the new science/authority that states division by zero cannot be solved.

If you can prove my thesis wrong, then do it & if possible let me know. I will be very happy for the good of science and mathematics if my thesis can be proven wrong.

If you **believe** my thesis is wrong, then please don't use statements like "I am sure" when you cannot prove because it becomes a belief rather than a science.

## ACADEMIC REVIEW

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### Introduction

This academic review is about a question I asked in the Quora forum:

"Is the notion of division by zero requiring movement correct? Say, there exists a law/theorem that states "division cannot occur without movement," e.g. you cannot divide a piece of cake into 2 parts without movement." Link: <https://qr.ae/pNipvw>

### There were only three reviews as at January 25, 2020:

The first reviewer responded on August 6, 2019. Credentials: Studied Mathematics & Computer Science in High School.

The second reviewer responded on August 7, 2019. Credentials: Masters Degree in Pure Mathematics & Theoretical Physics.

The last reviewer responded on January 25, 2020. He did not reveal his credentials.

## REVIEWS

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### 1<sup>st</sup> Reviewer:

Answer: **No**

### Reason:

"Division as an abstract thing, like  $\frac{n}{v}$ ? Definitely did not require any movement, besides the movement of my hand typing it.

So division by zero? Definitely not, and that is ignoring the fact that in most to all cases, you cannot divide by zero.

If you're speaking physically about division though, you still can't divide by zero."

### My response to the first reviewer:

I asked him "if division is 'an abstract thing,' does it mean that dividing a piece of cake into 2 parts is not mathematical? I never got his response to my question.

My answer was later deleted in Quora most probably because I responded to him via a question rather than an answer.

## **2<sup>nd</sup> Reviewer:**

Answer: **No**

### **Reason:**

"Movement is a concept of Physics. Physics uses Mathematics to model reality. It may even be dependent on Mathematics for physical theories to be scientifically valid.

Division is a concept of Mathematics. Mathematics is **independent** of Physics and, more broadly, reality in general. There are many mathematical structures in which division by zero is perfectly acceptable (although none of them are very well known to lay people). For example you could check out [Wheel Theory](#) where, despite the evocative name, **no** movement is involved.

### **My answer to the second reviewer:**

You have avoided my question entirely. As much as division is abstract, it can be applied to physical quantities. It is in this category of Applied Mathematics that my question lay:

Can I divide a cake into two parts without movement; if not, what impact will it have in Applied Mathematics in as far as solving division by zero is concerned?

Secondly I disagree that "there are many mathematical structures in which division by zero is perfectly acceptable." I will quote this statement from Wikipedia [Division by zero \(Abstract algebra\)](#) because it sums it up quite nicely: "Any number system that forms a commutative ring—for instance, the integers, the real numbers, and the complex numbers—can be extended to a wheel in which division by zero is always possible; however, in such a case, "division" has a slightly different meaning."

In summary, my question lay in Applied Mathematics not Physics i.e.:

Can't I divide a cake (in Applied Mathematics) without movement? If I can't, wouldn't it mean that Applied Mathematics is abstract just like Pure Mathematics?"

### **His response to my first answer:**

"Applied Mathematics is abstract just like Pure Mathematics. Division as it exists in Applied Mathematics does **not** require "movement". Applied Mathematics can be applied, and is applied, in lots of applications in which the notion of movement makes no sense. For example let's apply some mathematics to populations: what is the average size of a family in the USA? We are going to divide by the number of families, but where is the movement? Surely you are not going to chop some people up to get an answer of 2.3..."

## My answer to his second response

"Thank you for your sound explanation. I agree that division is abstract in Pure Mathematics but what I do not agree is that you can apply mathematics in an abstract form.

If indeed you apply mathematics in an abstract form then you actually never applied anything instead you imagined you did hence that falls in the category of Pure Mathematics and not Applied Mathematics. In short, if Applied Mathematics is abstract then it automatically becomes a part of Pure Mathematics instead of being a part of Mathematics in general.

In other words, if we are to take your argument seriously then Applied Mathematics doesn't actually exist rather it's another fancy word for Pure Mathematics.

You gave an excellent example of what I mean. You said "let's apply some mathematics to populations: what is the average size of a family in the USA? We are going to divide by the number of families, but where is the movement? Surely you are not going to chop some people up to get an answer of 2.3..."

The best way to answer your question is to break down the families into one family at a time then we can compute the results later.

If there is one family in the USA which constitutes 4 family members, then the average size of a family in the USA is 4.

If there is another family with 3 family members then it will be  $\frac{4+3}{2}$ . This will give us 3.5 family members.

So your point is, if indeed division requires movement then we have to chop the "0.5 people" because "0.5 people" don't exist.

Your point is valid in Abstract Mathematics but not in Applied Mathematics. What you did was you mixed the two together and assumed you didn't.

In other words, it is perfectly possible to divide a person into two parts, of which in this case he/she will die. It's also perfectly correct to say that as he is being divided into two parts, there will surely be movement.

Therefore to answer your question, if for you to get the actual average population you must apply division via Applied Mathematics then yes, you'll have to chop the population to get the Applied Mathematical result.

But if you wish to get the result without chopping people up, then you MUST use Abstract Mathematics where chopping is imaginary.

Therefore in your case, you mixed Applied Mathematics with Pure Mathematics to avoid the REAL consequences of using pure Applied Mathematics."

## My second answer to his second response

I am about to prove the existence of movement in abstract mathematics as you enquired:

A comma is used in separation of words. I will use the same in separation of numbers where, in this case, separation means to divide.

If I separate a piece of cake into two parts, this is how it should appear in abstract Applied Mathematics:

$$\frac{1}{2} = \frac{1}{2}, \frac{1}{2} \text{ because } \left(\frac{1}{2}\right) + \left(\frac{1}{2}\right) = 1$$

$$\text{or } \frac{1}{3} = \frac{1}{3}, \frac{1}{3}, \frac{1}{3} \text{ because } \left(\frac{1}{3}\right) + \left(\frac{1}{3}\right) + \left(\frac{1}{3}\right) = 1$$

Therefore I propose that  $\frac{1}{3}$  is Pure Mathematics because  $\left(\frac{1}{3}\right) + 0 + 0 \neq 1$  while  $\frac{1}{3}, \frac{1}{3}, \frac{1}{3}$  is Applied Mathematics because  $\left(\frac{1}{3}\right) + \left(\frac{1}{3}\right) + \left(\frac{1}{3}\right) = 1$

This also means that since  $\frac{1}{2} = \frac{1}{2}, \frac{1}{2}$  then  $\frac{1}{2}$  is Pure Mathematics because  $\frac{1}{2} + 0 \neq 1$ .

Therefore in Applied Mathematics, (not Pure Mathematics) the comma has a meaning which is movement (= separation).

In other words, you cannot divide  $\frac{1}{3}$  without the comma (=movement) in Applied Mathematics because it will make no sense e.g. It does not make sense that you divide a piece of cake into three parts and end up with one part  $\left(= \frac{1}{3}\right)$  instead of three parts  $\left(= \frac{1}{3}, \frac{1}{3}, \frac{1}{3}\right)$  because you were dividing the cake into three parts, not one part.

So what significance does it have? It may not have any significant importance to all numbers except division by zero. See the video [Mathematics of Division by Zero](#).

Therefore I propose that a comma means movement (= separation) in Applied Mathematics because Applied Mathematics MUST be seen to be applied.

It must be noted however that the use of a comma is not new in mathematics. What's new is its use as a way to differentiate Applied from Pure Mathematics, when Applied Mathematics can be defined as abstract (of which is not my view).

When I say I am separating a piece of cake into two parts, it goes without saying that I am dividing it into two parts.

I hope this satisfies you. Your input matters a lot to me because of your experience in theoretical science but that doesn't mean you cannot be challenged."



### **3<sup>rd</sup> Reviewer:**

Answer: **Yes**

#### **Reason:**

"I think we should be very careful when saying "No" to new discoveries in science. A discovery cannot be wrong if it can be proven by repeated analysis & yielding the same result. For instance, any division will always yield separation hence movement. This is true no matter how many times you test it.

We may disagree on the way someone explains a scientific analysis but let's not kill a discovery based on disagreements on literature alone.

So if I am to base my answers strictly on literature then my answer would be 'No' because scientific results are not necessary in this subject of thought.

But if I am to base my answers on science, then 'Yes' because science is not about what I believe but what I analyze.

I may not understand or comprehend the results but I must accept them as they are, period. For instance, we may not understand what electrons are or their appearance but that doesn't mean they don't exist."

#### **My response to the Third reviewer**

I did not respond in this case because he was in the affirmative.

### **Conclusion**

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In my view & analysis, the reviewers who responded with a 'No' did not find anything wrong with my work, they were **suspicious** of it instead. This is because their answers are not based on a scientific approach but on bureaucracy of the academic system that asserts that Division by Zero cannot be solved.

Even though bureaucratic academic systems are very powerful, in that, whoever goes against them can easily lose their credentials or job, **suspicion** is not good enough in disapproving my assertions on Division by Zero.

The third reviewer who responded with a 'Yes' did not find anything wrong with my work (just like the first two), he chose to use scientific analysis instead (which is the only way to approve or disapprove scientific work).

I call on other academia to review my work in different platforms but give me and others who support my work the ability to respond to their reviews.

Academic bureaucracy brings order (most of the time) but in this case it's KILLING science as we know it. This is because Academic Bureaucracy leads to Academic gods who cannot be questioned. Academic gods lead to Academic beliefs where we believe in scientists rather than in science. It is this Academic beliefs that make science (that can easily be proven right) seem suspicious.

In the same way, academic beliefs make science, that can easily be proven wrong, seem complex and confusing.

**I sum up my analysis in these words:** Any science that seem complex and confusing, even when explained in simple words (& terms), has an Academic god seated on its throne. This Academic god has devout followers who will find any science that seems contrary to it, **suspicious**. Anyone who goes against this 'Academic god' is either fired from his/her academic position or loses his credentials and in the worst case both. The irony in all this is that most of these 'Academic gods' died a long time ago hence are not really gods but mortal hence susceptible to mistakes and errors.

# MY ANSWERS TO DIVISION BY ZERO QUESTIONS

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## 1

If division by 0 was possible, what would it equal?

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Link: <https://qr.ae/pGuSqj>

**Answered 27 May, 2021**

I like your question. Your question brings a new perspective of looking at division by zero. In that, **instead of counting it, we equate it.**

For example, **1/2 is y** therefore **y is 0.5**, now **that's a count of half.**

An equation may have a different result, for example, **1/2 is y - 4** hence **y = 1/2 + 4 = 4.5**

**But 1/2 is 0.5 not 4.5**

From the above example we learn that **a count and an equation are similar but not the same.**

**To your question, if we equate division by zero, we may get many results** such as infinity, NaN, error and so on.

**But if we solve division by zero by counting, we MUST get a definite result.**

**We get definite results by avoiding assumption.** For example, as in the example, **we assumed that 1/2 can also be "y - 4."** It is this assumption that brought a varying result. In the case of division by zero, there is an assumption that you can get the result by projecting (not counting) where you get infinity, NaN or error. **These types of results were never counted but assumed.**

If we wish to get a definite result for division by zero we MUST find a way of counting it rather than equating it to Infinity, NaN, undefined, error and such.

**The most efficient way of doing so is via a sequence.** This is because **a sequence leaves 'finger prints'** or evidence of the count. For example, if we have a sequence of 1, 2, 3, 4... we can evaluate the 'finger prints' of the count as a series of adding 1, **that is, 1=1, 2=1+1, 3=1+1+1, 4=1+1+1+1** hence **5=1+1+1+1+1**

**Proof:** Say we have a sequence of a, b, c, d... we can never prove that the next equation is "e" because the "e" is not a number hence it can be anything we wish. But 1,2,3,4... are numbers hence we are certain that the **next number is 5 not 6.** This is the main difference between a count and a projection. **A count leaves verifiable 'finger prints' while a projection leaves assumptions.**

If we solve division by zero via counting rather than equating, it can be very easy to get a verifiable result. **I explained this result of the sequence in another Quora forum** therefore I will not repeat it here, please see here

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH>

## 2

How can we bring more souls towards God by scientific arguments and sound logic?

---

Link: <https://qr.ae/pGuSqV>

**Answered 25 May, 2021**

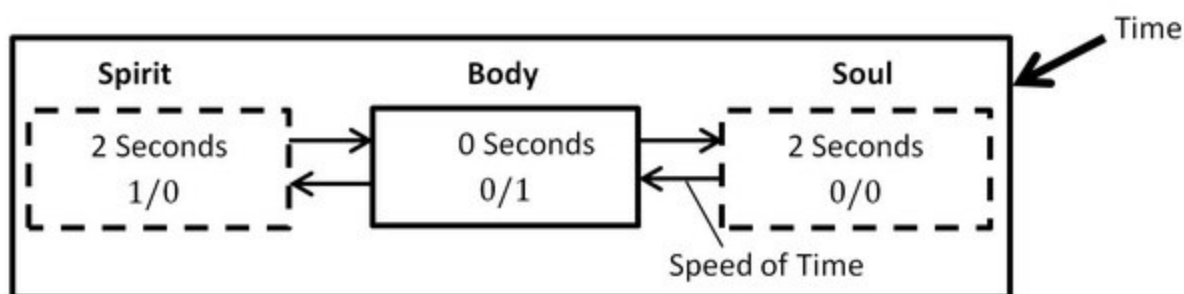
Use this:

In science they say everything began from a "**big bang**" and that before the "big bang" there was a single point called **singularity**. This singularity occupied some space hence **before it occupied this space, there was empty space**. It is **this empty space that is called Vacuum**. There is scientific evidence of this empty space everywhere in the universe.

**Newton's third law of motion** states: **For every action, there is an equal and opposite reaction**.

In this case, the action was the Singularity hence the only viable opposite reaction of existence of Singularity is the space occupied by this singularity which is the emptiness of space which is vacuum.

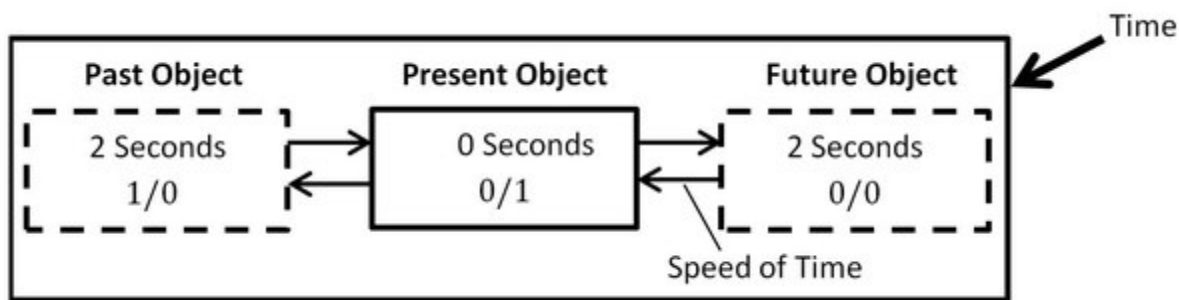
In this illustration, **Time is used for the action and reaction** where there is 2 seconds, zero seconds and negative 2 seconds (for the past object) as per the number line. **Note** that the 2 seconds is only used as an example to illustrate the scientific law of Newton's third law of motion.



In my view, the only relationship between the spiritual world and science is in **vacuum energy** but before this, we need to understand how Vacuum relates to all this.

Please study the chart in the link below to understand the **scientific analysis of Vacuum**. Once this has been understood, it would be easy to understand the **Speed of Time** as explained thereafter the link: [Quora forum: What is  \$1 \div 0\$ ?](https://qr.ae/pN01mH)

## THE SPEED OF TIME



As shown in the diagram above, any object passes through 3 stages all the time i.e. the future becoming the present, the present becoming the past and somehow though the same object is in the past, it appears in the present and the future because it will be there even tomorrow if it's not moved. This means the object passes through the three stages at an extremely high speed though we do not notice it because of its speed.

It is this speed that I refer to as: **The Speed of Time.**

In other words any object becomes vacuum (future) then matter (present) and vacuum (past) all the time at an incredible high speed that we do not notice it. This means **any matter (including humans) turn into vacuum then matter and vacuum at an extremely high speed that we do not notice it.**

### Scientific Evidence of Existence of the Speed of Time

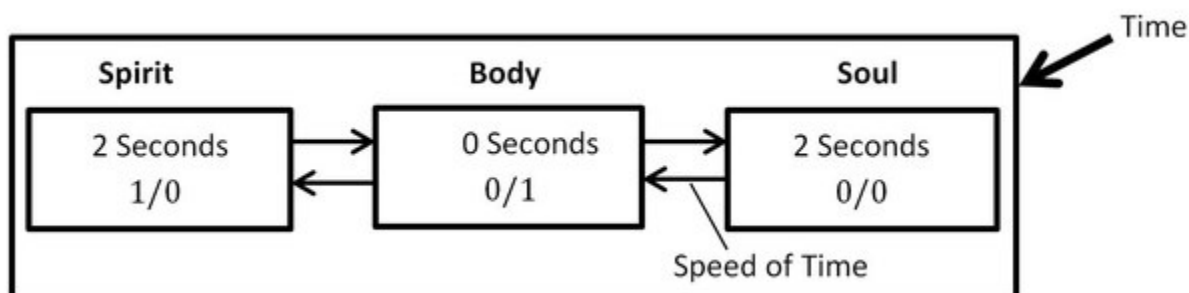
We can associate the Speed of time with Vacuum Energy:

...**Vacuum energy** can also be thought of in terms of virtual particles (also known as vacuum fluctuations) which are created and destroyed out of the vacuum. These particles are always created out of the vacuum in particle–antiparticle pairs, which in most cases shortly **annihilate each other and disappear**. However, these particles and antiparticles may interact with others before disappearing, a process which can be mapped using Feynman diagrams. Note that... [Vacuum energy - Wikipedia](#)

**Annihilate means to reduce to nonexistence.**

### SCIENTIFIC ARGUMENT ON EXISTENCE OF SPIRITS AND SOULS

#### THEOLOGY AND SPEED OF TIME



The conceptualization of the scientific and philosophical theory that all matter including living things turn into Vacuum (0/0), Matter (0/1) then Vacuum (1/0) all the time at an extremely high speed, is very important to Theological scientists. This is because, human beings turning into vacuum but, yet still, remaining alive, arouses the attention and curiosity of all theologians i.e. it brings out the prospect and probability that human beings remain alive even after death because it's impossible to kill Vacuum vis-à-vis the life in it.

- ...If you have any questions or contributions, for or against, this scientific view point & you wish me to see or reply to it, it would be wise to **add comment** directly on my answer (as a sub comment), otherwise I may not be able to see or respond to it. This also applies to all [my other contributions on Quora forums](#). Thank you.

## 3

### How was time created? What happened first when time was born?

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Link: <https://qr.ae/pGuSqY>

**Answered 23 May, 2021**

Time is nothing but the Past, Present and Future.

With this in mind, I can paraphrase your question to: **Between the Past, Present and Future, which appeared first.**

There is scientific proof that the past and future are the same thing because both don't exist in the Present. Please see here

**What happens if you divide Tennessee by zero?** <https://qr.ae/pGpKWB>

## 4

### Is a mathematician a scientist, like a physicist is a scientist?

---

Link: <https://qr.ae/pGuSm9>

**Answered 23 May, 2021**

The best way to answer this question is to understand **what exactly is mathematics and physics. Mathematics is nothing but counting.** We count via operations such as adding, subtraction, multiplication and division. Any other description of mathematics will in one way or the other fall under this description.

**Science** on the other hand **is nothing but understanding nature.** This description would have

been complete if philosophy didn't exist because **philosophy can also be about understanding nature. The difference between philosophy and science is that science defeats the argument or 'philosophia' of philosophy via scientific laws. Scientific laws beat philosophy because they can and must be proven mathematically.**

In short, **without mathematics or scientific laws, science would be nothing but philosophy.**

With this understanding (that science is dependent on mathematics because of the "threat" posed by philosophy), we can understand the gist of the matter:

### **Proof that perfect science is mathematics & that perfect mathematics is science:**

My explanation is simple. I will use just a single **orange** to prove my point because any shrewd scientist or mathematician will tell you that **the best place to hide a lie is in complications** where it is difficult to understand hence difficult to question.

### **Consider dividing an orange into 3 parts.**

If we use the **scientific method**, we will get  $\frac{1}{3}$ ,  $\frac{1}{3}$ ,  $\frac{1}{3}$  (i.e. 3 parts of 1 orange) because  $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$  orange

But if we divide an orange using the **mathematical method**, we will get 0.333..., 0.333..., 0.333... **but**  $0.333 + 0.333 + 0.333$  is not equal to 1 orange (but an approximation).

### **So what do we learn from this analysis?**

In science, it is almost impossible to divide an orange into exactly 3 parts. This is because as you cut the orange, some liquid will spill and so on, hence an approximated value is more acceptable. This proves that perfect mathematics is science. **Perfect mathematics in this case is proven by the approximate value of 0.333... since the recurrent quantity which enabled the approximate value can only exist in mathematics but not in science.**

On the other hand, it is dividing using the scientific method that gave us the accurate or perfect result because  $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

This proves, perfect science is mathematics. **Perfect Science in this case is proven or revealed because recurring quantities like 0.333... don't exist in science** (but non-recurrent quantities like  $\frac{1}{3}$  do exist).

Having said this, if we divide an orange into 2 parts, we get 0.5, It doesn't matter whether we use the mathematic or scientific method because  $\frac{1}{2} = 0.5$

This proves **science gravitates more towards mathematics than the vice versa because of the accuracy or perfection in mathematics.** In other words science is more of a mathematical subject than a science subject.

### **Proof that science is more of a mathematical subject than it is a science subject:**

All scientific laws can never be true except they are expressed using mathematics. For example: Time = Distance over Speed. The **Time, Distance & Speed MUST be expressed in numbers.**

In other words, **without mathematics, science will be nothing but philosophy where the argument that carries the day wins.** This is because **the only way to verify science is via the laws of science which must be mathematical.** Other than this, we have **phenomenon** which are nothing but science which cannot be fully explained mathematically. Since it cannot be fully explained, it leaves some room for philosophizing on the phenomenon.

**Take note that science is a study hence does not exist in nature** because it is a subject written in books. **Nature on the other hand, is not a subject** because it doesn't require to be written in

books so that it can exist. Nature is a natural thing. Simply put, **nature will exist, with or without science.**

In my analysis above, **I am talking about science not nature.** For example, temperature is part of nature and philosophy. Zero or Ten Degrees Celsius is part of science because it can be expressed in mathematical terms. **You cannot bring forth an argument about a single number like zero or ten but you can bring an argument or philosophize about temperature** – This is the distinction between science and philosophy.

**As to whether a mathematician is a scientist:**

A **scientist** uses numbers, data, quantity, structure, space, models, and change to conduct scientific research.

A **mathematician** uses numbers, data, quantity, structure, space, models, and change to solve mathematical problems.

**A mathematician and a scientist are two different sides of the same coin of scientific research.** This means a research conducted in mathematics can help solve a problem in science and vice versa e.g. The planet Neptune was **discovered via mathematical prediction.**

**In a nutshell, a mathematician is a scientist to the extent where a scientist is a mathematician.**

Thank you.

P.S For more about **Time in Mathematics**, see here

**What happens if you divide Tennessee by zero?** <https://qr.ae/pGpKWB>

## 5

What is the philosophy behind  $0/0$ ? What really being done there?  
Why don't we get a 1?

---

Link: <https://qr.ae/pGuSDZ>

**Answered 21 May, 2021**

Firstly, let's make a distinction between **Philosophy** and **Science**.

**Science** comes from the Latin word *scientia*, meaning 'knowledge.' ([Wikipedia](#)). This knowledge must be testable. You test via practical experiments, hence:

**Science is knowledge acquired via practical experiments (and these experiments when repeated must give the same results).**

On the other hand, **Philosophy** comes from the Greek word *philosophia* which means 'love of wisdom.' ([Wikipedia](#)). This wisdom must have the ability to be questionable. The question is asked via posing it as a problem that needs to be resolved or studied, thus:



**Philosophy is the love & wisdom to ask questions about a certain problem with the view to resolve or study the problem.**

To answer your question:

**The philosophy behind 0/0** is the question: Is it possible to divide by zero? To understand “**What really being done there**” (in respect to solving division by zero) see here and judge/philosophize for yourself:

[What is  \$1 \div 0\$ ?](#)

As to “**why don't we get a 1**” (when we calculate  $0/0$ ) please see here:

**If all numbers divided by themselves are 1, is  $0/0=1$ ? Why or why not?** <https://qr.ae/pN01rH>

## 6

**Why does 1 times 0 equal zero? Where does the 1 go?**

---

Link: <https://qr.ae/pGuSDs>

**Answered 15 May, 2021**

Before I answer this question, it's important to note that **there is a difference between  $0^1$  &  $0^0$** . Zero is  $0^1$  NOT  $0^0$ .

Hence  $1 \times 0^1 = 0^1$  NOT  $0^0$

Therefore, in layman's terms, **the 1 goes to “ $^1$ ”** when multiplied by 0.

In other words, **zero is not nothing, otherwise negative numbers would be irrelevant** because 0 is greater than  $-1$ .

If you want a rather concrete explanation than this, please see here

If the answer to a math question is 0, is it okay to leave the answer blank since 0 means nothing?

<https://qr.ae/pGuScB>

# 7

## Can you really divide a number with zero?

---

Link: <https://qr.ae/pGuSxE>

### **Answered 13 May, 2021**

That's an easy question, **YES**. The difficult question is: **Can you really accept a scientific way to divide by zero** as explained here:

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH>

# 8

If a number can always be divided in half, at what point does it equal zero? If it never equals to zero, how does time exist if a second can always be divided in half?

---

Link: <https://qr.ae/pGuSxw>

### **Answered 13 May, 2021**

That's a very brilliant question. A great question like this requires a great answer.

For your first question: **If a number can always be divided in half, at what point does it equal zero?**

It can never equal zero. This is the reason the concept of infinity exists. The concept of infinity is best explained via trying to divide by zero. In the same way, the concept of division by zero can lead to explanation of time. That's why I said your question is brilliant

**Please see here:** [What is  \$1 \div 0\$ ?](#)

If you understood the explanation in the link above, then the second question will be easy to grasp.

You asked: **If it never equals to zero, how does time exist if a second can always be divided in half?**

By the term **Time**, I assume you mean **Real Time** (which is the present time). In this case, **any subtraction is the past** and **addition is the future** hence always equal to zero (as per the number line).

If this is what you meant, then your question is not only brilliant but great as well.

Please see here. Take note that **the object (which in this case is the earth) is Real Time** while the past and future is explained as is, in this link:

**What happens if you divide Tennessee by zero?** <https://qr.ae/pGpKWB>

## 9

Is a false vacuum considered nothing? Can it exist without time, space, and energy?

---

Link: <https://qr.ae/pGuSxv>

**Answered 1 May, 2021**

That's an excellent question & I have answered it excellently as well by keeping in mind that **Speed is nothing but Distance in Time**. Please see here

**Can a false vacuum exist without space and time?** <https://qr.ae/pGuSJm>

## 10

Why is 0 to the power of 0, 1?

---

Link: <https://qr.ae/pGuSVO>

**Answered 28 April, 2021**

Thank you for your question, please see here

**How do you prove  $x^0 = 1$ ?** <https://qr.ae/pN01Jl>

# 11

Can a false vacuum exist without space and time?

---

Link: <https://qr.ae/pGuSJm>

**Answered 28 April, 2021**

Vacuum by definition is empty space. The opposite of an empty space is filled space. Therefore in my opinion, a false vacuum is basically a filled space. This means **a false vacuum cannot exist without space because a filled space is a space as well.**

As for the relationship between vacuum space and time, it gets a bit interesting. Please view the chart in the link below:

**What happens if you divide Tennessee by zero?** <https://qr.ae/pGpKWB>

# 12

How does physics define time which is different than the measure of time?

---

Link: <https://qr.ae/pGuSJG>

**Answered 26 April, 2021**

The chart on the link below will help. Focus closely on the readings at the bottom part of the chart. After studying the chart, don't shout too loudly otherwise you may upset the "gods of relativity" who don't want anyone messing around with Einstein.

Keep in mind:

**Speed** = Distance over Time taken, hence

**Time** = Distance over Speed covered.

**What happens if you divide Tennessee by zero?** <https://qr.ae/pGpKWB>

# 13

## Why is zero called a non-negative number?

---

Link: <https://qr.ae/pGuSSS>

**Answered 26 April, 2021**

### **Mathematical Proof that Zero is Negative, Positive & Both**

$$1 - 0 = 1$$

$$1 + 0 = 1$$

Since  $1 = 1$ , then

$$1 \pm 0 = 1$$

**Thus zero is  $-0$ ,  $+0$  &  $\pm 0$**

To answer your question: Why is zero called a non-negative number?

Definition of [Sign \(mathematics\) - Wikipedia](#)

### **Terminology for signs**

When 0 is said to be neither positive nor negative, the following phrases may refer to the sign of a number:

- A number is **positive** if it is greater than zero.
- A number is **negative** if it is less than zero.
- A number is **non-negative** if it is greater than or equal to zero.
- A number is **non-positive** if it is less than or equal to zero.

When 0 is said to be both positive and negative, modified phrases are used to refer to the sign of a number:

- A number is **strictly positive** if it is greater than zero.
- A number is **strictly negative** if it is less than zero.
- A number is **positive** if it is greater than or equal to zero.
- A number is **negative** if it is less than or equal to zero.

In short, **in the strict (= scientific) form of zero, zero is both a negative & positive number because  $1 \pm 0 = 1$**  (as earlier explained).

P.S

Not to be confused with  $0^0$ , that is,  $0^0$  is not equal to 0. See here for a strict (= practical) explanation for this

**What is  $0^0$ ?** <https://qr.ae/pGuSO1>

# 14

Which decimal has the least value? 0.012, 0.12, 0.0125, or 0.00125

---

Link: <https://qr.ae/pGuSSw>

**Answered 23 April, 2021**

I will not go so much on what decimal has the least value because it has already been answered many times in a similar manner on Quora forums. I will instead focus on explaining **what it actually means to have such values, specifically in a division setting**. In this way, I will offer a different perspective to the same question. I will try to use a **scientific analytical approach** of dividing 1000 as asked here:

**How do you work out  $1000 \div 0.08$ ?** <https://qr.ae/pGuSSF>

# 15

How do you work out  $1000 \div 0.08$ ?

---

Link: <https://qr.ae/pGuSSF>

**Answered 23 April 2021**

$$1000 \div 2 = 500$$

$$1000 \div 1 = 1000$$

$$1000 \div 0.1 = 10000$$

$$\text{Hence } 1000 \div 0.08 = 25000$$

As you may have noted the **numbers are becoming bigger**.

I therefore assume you are asking: **How do you work out the logic behind such strange results?** We expect the results after division by one to be near 1000 since  **$1000 \div 1$  is like dividing 1000 by nothing** thus the result should be 1000.

**It does not make sense that when you divide 1000 by 0.08 you get such a big value** because you are approaching 0 whose result should be 1000 since we are dividing 1000 by nothing.

**NB** zero as nothing is  $0^0$  not  $0^1$  because  **$0/0$  means the divisor is zero** but  **$0/1$  means the divisor is one**. The divisor is the denominator in mathematics.

The best way to explain this is via **analysis** of what it means to divide 1000 by 0.08

Let's be scientific (= practical) and divide 1000 oranges into various parts.

1. If we divide 1000 oranges by 2 we get **2 parts of 500 oranges**.
2. If we divide the 1000 oranges into 1 part, there will be **1 part of 1000 oranges**.
3. Now if we divide the 1000 oranges into 0.08 parts, there will be **0.08 parts of 1000 oranges**, correct? Wrong:
  - 2 parts of 500 oranges =  $2 \times 500 = 1000$
  - 1 part of 1000 oranges =  $1 \times 1000 = 1000$

**Hence**

- 0.08 parts of 1000 oranges =  **$0.08 \times 1000 = 80$**  rather than **1000**

But one will argue that I should have said **0.08 parts of 25000 oranges** so that the result would have been 1000 rather than 80 oranges. To do this would be a contradiction because **we never had 25000 oranges to start with**. We only had 1000 oranges that's why our numerator or dividend was 1000 (not 25000) to start with.

My point here is **when you divide using decimals, you alter your numerator** (or dividend) therefore altering the **original** meaning of your calculations i.e.

**$1000 \div 0.08$  is the same as  $(1000 \times 100) \div 8$**

From the above calculation, as we have scientifically (= practically) analyzed, there was **never** 1000 oranges but 100000 oranges divided into 8 parts. The decimal number was either a deception or a misunderstood entity. I would think it was the latter.

In simpler words, **a decimal calculation is not the same as a non-decimal calculation when used in a fraction setting** because it has the power or ability to alter the **original** numerator hence altering the **original** value of the numerator.

In other words, if you were originally dividing 1000 oranges into various parts, you end up dividing 100000 oranges into various parts. Surely this are two very different division calculation. This is because **you wanted to compare 1000 oranges but you end up comparing 100000 oranges**.

Logic dictates that if you wish to divide 1000 oranges into 3, 2, 1 or 0 parts, you need 1000 oranges NOT 100000 oranges because you don't have the 100000 oranges to start with.

Mathematical logic dictates that **division is repeated subtraction**, therefore you cannot subtract 1000 oranges and end up with 100000 of them (because that would be adding them). It's simply not mathematic nor scientific.

I hope this answers your intelligently crafted question because you asked "how do you work out?" rather than "how do you solve?"

That is, you work out by understanding that ' **$1000 \div 0.08$** ' actually means ' **$100000 \div 8$** ' and that **it has nothing to do with the division of 1000**.

In other words, **decimals have a very different meaning** depending on whether they are the dividend or divisor. **A dividend can be treated like a quotient but not so for the divisor** (= denominator).

This means the least divisor you can have after 1 is 0. You cannot have decimals such as 0.08 because it will affect the original dividend (= numerator). It is the case of “**you cannot eat a cake and have it**”: 0.08 means ‘ $8 \div 100$ ’ hence ‘ $1000 \div 0.08$ ’ = ‘ $1000 \div (8 \div 100)$ ’. So **you cannot divide 1000 twice and claim you divided once**, unless of course you are trying to fool someone.

For more info on how to divide using scientific (= practical) methods, see here:

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH>

# 16

If the answer to a math question is 0, is it okay to leave the answer blank since 0 means nothing?

---

Link: <https://qr.ae/pGuScB>

**Answered 21 April, 2021**

I would prefer you answer with the zero but add a question mark at the end like this: **0?**

This would prove you understood the question but at the same time questioning the validity of the resulting answer.

Someone asked a similar question, here is my explanation:

**? times 0 is 12?** <https://qr.ae/pGuSea>

# 17

What happens if you divide by zero?

---

Link: <https://qr.ae/pGuScA>

**Answered 21 April, 2021**

We can only truly and accurately be able to comprehend such a confusing calculation by comparing division by zero with say, **zero divided by one** as explained here:

**Why is  $1 \div 0$  = indefinite, but  $0 \div 1 = 0$ ?** <https://qr.ae/pGISZ1>

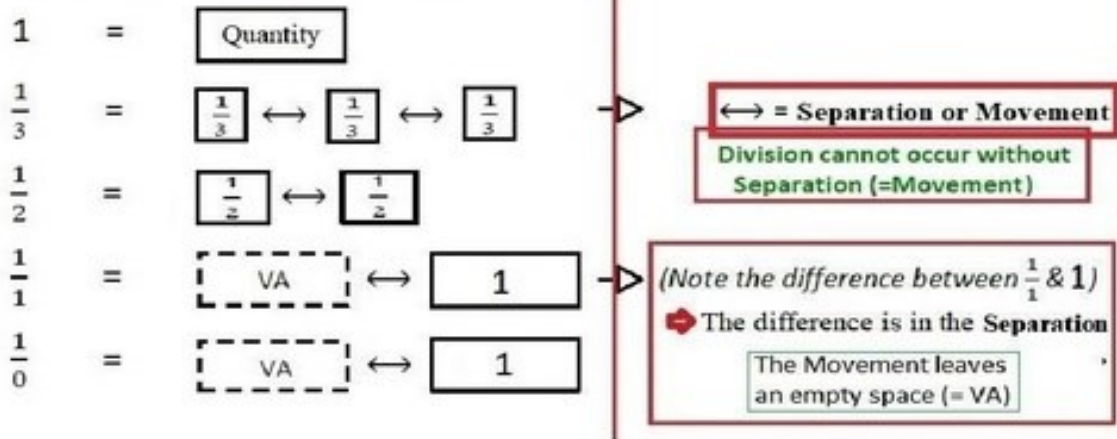


# DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

**Scientific Method Used:** A Sequence Mathematical Method from  $1/3$  to  $1/0$

Figure showing Division of a Quantity



The denominator determines the number of parts of the object.

Thus:  $\frac{1}{3}$  determines the 3 parts

$\frac{1}{2}$  determines the 2 parts

$\frac{1}{1}$  determines the 1 part

Hence:  $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part (or Past of quantity)

Please share this with friends

## The Future and Past are Void

### a) Future:

If time is slowed and yours isn't, your time will be faster than other people's time; therefore your time will be in the future of other people's/matter's time.

If you move, you'll leave vacuum because it will take a longer time for air or any other matter to fill your space because its time has been slowed; hence the future is void.

### b) Past:

If time is stopped and yours isn't, the time of every matter, will be in the past because their time has been stopped.

If you move, you'll leave vacuum because no air or any other matter will fill your space because its time has been stopped; hence the past is void also.

## Proving that Past and Future are Vacuum

### i. Past:

When an object is moved from point A to B, point A becomes the past of point B because the object was (= past) in Point A and now (= present) is in point B; but point A is vacuum unless air or any other matter fills its space. This is because when the object moved from point A, an empty space (= vacuum) was formed (unless air or other matter fills this space).

(nb Time = Distance/Speed)

### ii. Future:

When one expects an object to move from point A to B, the object doesn't move to point B because it's just an expectation of the future; but if for some reason it moves to point B, the distance between point A to B becomes empty space (= vacuum) unless air or any other matter fills the space. Since any expectation of a latter time is the future, the distance between point A and B is the future at the time the movement of the object was taking place.

(nb Time= Distance/Speed)

# 18

Why is  $1 \div 0 = \text{indefinite}$ , but  $0 \div 1 = 0$ ?

---

Link: <https://qr.ae/pGISZ1>

**Answered 21 April, 2021**

The best way to tackle such a confusing question is to rid the confusion by using a similar example:

**Why is  $1 \div 2 = \frac{1}{2}$ , but  $2 \div 1 = 2$ ?**

In the first case we divided 1 into 2 parts hence we ended up with **2 parts** of 1 or  $(\frac{1}{2}, \frac{1}{2})$ .

In the second case, we divided 2 into 1 part hence we ended up with **1 part** of 2 or **(2)**.

Therefore if we divide 0 by 1, we will end up with **1 part** of 0 or **(0)**

In the same way, if we divide 1 by 0, we will end up with **0 part** of 1. The question arises: **How do you define the '0 part of 1'** or what is the difference between **0 part of 1** and **1 part of 1**?

The best way to understand this question is via a practical illustration because **practical illustrations don't lie**:

**Zero was invented later. Why can't we create another number between 1-10?**

<https://qr.ae/pG87a0>

# 19

If we divide 10 by 2, we'd say that we are splitting 10 of something into 2 groups. But if we divided 10 by  $\frac{1}{5}$ , we would typically use a different type of logic. Which logic can be applied to both division by decimals and division by whole numbers?

---

Link: <https://qr.ae/pGuSZt>

**Answered 20 April, 2021**

There is **only one logic** applied in every type of operation. This logic is BODMAS (or PEDMAS):

**B**rackets

**O**rders (i.e. Powers and Square Roots, etc.)

**D**ivision and **M**ultiplication

## Addition and Subtraction

For your first operation, we use the (BODMAS) logic of **Division** since it's the only operation used i.e.  $10 \div 2$ .

In the second case, there are two similar but not the same BODMAS logic: There is the **Division** operation and the **Brackets** logic (Brackets because of how your Division operation is phrased in the sentence) i.e.

$$10 \div 1/5 = 10 \div (1/5)$$

So there are only two scenarios:

$$10 \div 0.2 \text{ or } 10 \times 5$$

**Your question:** Which logic can be applied to both division by decimals and division by whole numbers?

**I will paraphrase** your question: What is the logical difference between  $10 \div 0.2$  and  $10 \times 5$ ?

There is no (logical) difference except when it comes to accuracy of the calculation e.g.

$$10 \div 1/3 = 30$$

$$10 \div 0.333... = 30.03$$

Hence the first calculation is more accurate. This proves solving calculations via fractions is more accurate (or safer) than decimals.

**So to answer your question**, the logic to be applied is **BODMAS with Accuracy**.

# 20

Are there any calculators that allow division by zero? Is it even legal to produce them?

---

Link: <https://qr.ae/pGuSe3>

## **Answered 19 April, 2021**

Before I answer your question, it is important to understand that there are **analog** and **electronic calculators**. I will delve on the electronic calculator.

An electronic calculator is a small (programmed) computer, therefore I will assume that what you are asking is: **Are there programs that allow division by zero?**

Electronic calculators are limited by the programs that run them. In Programming we have what we call GIGO which means **G**arbage **I**n, **G**arbage **O**ut.

I know of many electronic **calculators** that **allow infinity, error, NaN as the answer for division by zero**. So to answer your question, **YES**.

If I were to classify these results, I would call them **GIGO**.

For your second question, is it legal? Computer programs have their own laws called **syntax** and judges called **semantics**. They govern how a computer language is written. If a program is meant to be used as a calculator program and gives a result such as  $1+1=3$ , we say that the program has a **bug** and requires **debugging**.

I think unless the calculator interferes with other calculations it cannot be illegal. For example,  $1+1=2$ , if a calculator gives a contrary answer, it will be deemed to be misleading to the public which is a criminal offence in almost (if not) all countries in the world. But if you ask a programmer, he will not see anything illegal but will just say that the program or code of the calculator requires debugging.

In other words, **before it even becomes a criminal offence, syntax and semantics would have already 'judged and prosecuted' the bug in the program and declared the bug error (=guilty) as charged.**

If the calculator outputs results such as error, NaN, infinity or any other result that does not interfere with other calculation results, I think it will not be illegal.

Having said this, remember calculators are computer programs or code therefore, if a program is made for research purposes it can give a contrary outcome, for instance if a program is made specifically to try and solve the problem of division by zero, by allowing different scenarios, it will be legal and classified as a computer game.

Research simulated programs fall under the same category as computer games (in programming) therefore if computer games are legal, so are research programs. For example before you become a space pilot, you are required to play simulation games. The results or limits of this games are already pre-determined by the program running the game. These limits are under syntax and semantics hence it is possible to debug.

In the same way, you can set limits of, say division by zero, which will allow you to make calculations. In other words any calculator that gives results such as infinity, error, NaN have an "in built game" in their program because infinity, error or NaN are not a computation of numbers but a different set of programming code. What I mean is, **if you try dividing by zero, you will never get NaN because NaN or infinity are not numbers to start with.**

Computer viruses however are a different story and **very illegal** because they alter the way a computer operates and can even interfere with calculator programs. The good news is there are many antiviruses available to deal with such scenarios.

Having said all this, if a new number is discovered that solves division by zero, all calculators will need to be re programmed while the old ones become obsolete. Please see here for the best candidate available:

**Zero was invented later. Why can't we create another number between 1-10?**

<https://qr.ae/pG87a0>

# 21

? times 0 is 12?

---

Link: <https://qr.ae/pGuSea>

**Answered 17 April, 2021**

There is no number you can multiply by zero to get 12, **however this is a contradiction in mathematics:**

If I have 12 oranges and I multiply them zero times, surely I should remain with my 12 oranges. This is because if I have zero oranges and I multiply them 12 times, it means I remain with zero oranges.

This expression is clearly demonstrated in the empty set scenario where **if you multiply two empty sets, you get 1, not zero.**

In other words, zero is not nothing. If it was nothing, then negative numbers would be nothing as well because they are lesser than zero: A calculation like ' $3 + (-1) = 2$ ' would be undefined because ' $-1$ ' would be nothing.

Having said this, there is one scenario in mathematics that can take us out of this quagmire that never seem to end:

If an orange is in the future – For example, an orange is to be produced by an orange tree, but the orange tree has not yet produced the orange yet. In this scenario, you can confidently say that the orange is nothing because it hasn't been produced by the orange tree yet.

In other words, if we can express numbers in their future, then nothing can exist because its existence has not yet come (though will come later).

This is where division by zero comes in. It is possible to scientifically & mathematically express the future & past via division considering that Time means Distance over Speed Covered.

This is expressed as the difference between  $0^0$  and  $0^1$ .

Please see here for more information on this practical & intriguing topic of division by zero.

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH>

# 22

Can you turn 10 into 0?

---

Link: <https://qr.ae/pGuSiS>

**Answered 15 April, 2021**

The word "turn" has a special meaning in mathematics, it means to rotate. Rotation is part of Geometry. One turn is equal to 360 degrees.

To answer your question, if point 10 is in the same circumference or area as point zero, then yes. You can indeed turn/rotate 10 to point 0.

If you haven't noticed, my answer is a bit sarcastic because you asked about **turning 10 into 0** but not **turning 10 to point 0**. I hope you have gotten my **point** that some terms in mathematics have specific meaning e.g The **difference** between 10 and 0 actually means to **subtract** 10 from 0.

# 23

Are there only three numbers? Zero, One, and Successor?

---

Link: <https://qr.ae/pGuSiK>

**Answered 15 April, 2021**

If by Successor you mean all numbers that are neither Zero or One then you may be talking about **positive infinity**.

To understand what I mean, I will illustrate:

Say you **add "Successor" to One**, what would you get?

**Successor + 1 = ?**

If **Successor** was "**all the numbers**" then you would get:

**All numbers + 1**

Therefore **you would get a number greater than all numbers** hence the concept of infinity.

Take note that **neither positive nor negative infinity is a number**.

The second way to look at it is whether by successor you mean the numerals two to nine as units. This is because **all numbers are made up of zero to nine**, for example: Unit number **1** and **9** make up **19**, or **2** & **0** make up **20** and so on. With this arrangement, there are

only ten units of numbers i.e. **0** to **9**. If you are asking if their can be other units of numbers other than 0 to 9, see here:

**Zero was invented later. Why can't we create another number between 1-10?**

<https://qr.ae/pG87a0>

# 24

How do you explain to a child that zero to the zeroth power equals one (homework, physics, mathematics)?

---

Link: <https://qr.ae/pGuS99>

**Answered 14 April, 2021**

We live in a time and age where (in my view) children are more logical than even university professors because they speak their minds rather than the dictates and guidelines of academic institutions.

In other words, professors and lecturers teaching in higher institutions can loose their jobs for speaking their minds in certain topics. The simplest example is where a teacher is not allowed to express his/her feelings on a subject such as Evolution yet the Evolutionists are no different from Theologians: Neither the Evolutionists nor the Theologian can prove what caused the so called Big Bang. This is because even if they did, it would contradict the idea that everything began with the Big Bang in the first place i.e.

If **before** the big bang = 0

And **after** the big bang = 1

Then  $0 = 1$  because the '1' came from the '0'

The contradiction is if  $0 = 1$  then  $1 = 0$ , that is:

If the big bang resulted in everything, then everything resulted in nothing because  $1 = 0$ .

Now, to answer your question:

**If you wish to explain to a child that  $0^0 = 1$** , be open minded like the little child. Do not listen to people who fear losing their jobs or reputation for speaking their mind and instead **listen to science itself:**

$$0^0 = 0/0$$

This falls under division by zero calculations because the zero is being **divided by zero.**

Science simply means proving practically. The answer to  $0^0$  is not 1, at least from a scientific (=practical) point of view, please see here

**What happens if you divide Tennessee by zero?** <https://qr.ae/pGpKWB>

# 25

Are all undefined expressions in math the same? Can we make statements like  $1^0 = \frac{0}{0}$  because they are both undefined?

---

Link: <https://qr.ae/pGuS97>

**Answered 14 April, 2021**

Your question is quite ingenious and unique because you are trying to express 'undefined' as a mathematical expression.

My answer is a sarcastic one: Since infinity (though not a mathematical number) has been accepted as a mathematical expression, then undefined (though not a number) should also be a mathematical expression as well, that is:

$1^\infty = \text{undefined}$  and  $1/0 = \text{undefined}$

Therefore  $1^\infty = 1/0$

Of course this is not true and/but of course it's true:

The irony is infinity though not a number is perceived by many mathematicians as a kind of 'semi number' because it can be expressed as a number to some extent e.g. If 5 is the biggest number we can count, then 6 (or any number  $>5$ ) must be infinity. Therefore infinity has been expressed to some extent.

The irony here is: if 6 is infinity then  $5 + 1$  is infinity. But Infinity minus 1 is not 5, it is undefined or relative for the reason it can change e.g. If the greatest number you wish to count is 3, then 4 is infinity; at the same time if the least number you wish to count is "-3" then "-4" is infinity.

If infinity minus 1 is undefined, then 6 must be undefined because it can be expressed as infinity.

The other irony is, in mathematics, 6 (or any other number you can think of) is not undefined hence infinity cannot be a mathematical expression yet it is still being used because of its "importance" in expressing division by zero.

In simpler words, **infinity is a 'number' of convenience** until we get the solution for division by zero.

See a practical suggestion for the solution of division by zero here



**Zero was invented later. Why can't we create another number between 1-10?**

<https://qr.ae/pG87a0>

# 26

Why does zero not have a reciprocal?

---

Link: <https://qr.ae/pGpKga>

**Answered 5 April, 2021**

The answer is similar (but not the same) as:

**Does 0 have a reciprocal?** <https://qr.ae/pG1py0>

# 27

Can zero be defined without some definition of one? Can one be defined without some definition of zero?

---

Link: <https://qr.ae/pGuSWp>

**Answered 5 April, 2021**

This is a very good question because it helps us make the distinction between one and zero.

Before I answer, it would be a good idea to understand what my definition mean:

**My definition holds true if  $1 + 1 = 1/1 + 1/1$  and  $0 + 0 = 0/1 + 0/1$**

**To answer your question:**

You have asked two questions in one:

1. Can zero be defined without some definition of one?

**Answer: NO**, because: **0 means 0/1** but not **0/0**

2. Can one be defined without some definition of zero?

**Answer: YES**, because: **1 means 1/1** but not **1/0**

This begs the question: Since **1** can be defined as **1/1**, can **0** be defined as **0/0**?

The answer is tricky some, please see here:

**What happens if you divide by zero?** <https://qr.ae/pGuxb4>

# 28

## What happens if you divide Tennessee by zero?

Link: <https://qr.ae/pGpKWB>

**Answered 1 April, 2021**

You are asking a rather practical question which is extremely recommendable. Practical questions are scientific in nature rather than imaginary (=abstract).

Thank you for asking this question because it makes imaginary/abstract mathematical answers obsolete and irrelevant.

Consider this chart:

### DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

**Scientific Method Used:** A Sequence Mathematical Method from  $1/3$  to  $1/0$

**Figure showing Division of a Quantity**

$1$	$=$	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Quantity</div>		
$\frac{1}{3}$	$=$	<div style="display: inline-block; border: 1px solid black; padding: 2px;"><math>\frac{1}{3}</math></div> $\leftrightarrow$ <div style="display: inline-block; border: 1px solid black; padding: 2px;"><math>\frac{1}{3}</math></div> $\leftrightarrow$ <div style="display: inline-block; border: 1px solid black; padding: 2px;"><math>\frac{1}{3}</math></div>	$\rightarrow$	$\leftrightarrow =$ Separation or Movement Division cannot occur without Separation (=Movement)
$\frac{1}{2}$	$=$	<div style="display: inline-block; border: 1px solid black; padding: 2px;"><math>\frac{1}{2}</math></div> $\leftrightarrow$ <div style="display: inline-block; border: 1px solid black; padding: 2px;"><math>\frac{1}{2}</math></div>		
$\frac{1}{1}$	$=$	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">VA</div> $\leftrightarrow$ <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div>	$\rightarrow$	(Note the difference between $\frac{1}{1}$ & 1) $\Rightarrow$ The difference is in the Separation The Movement leaves an empty space (= VA)
$\frac{1}{0}$	$=$	<div style="border: 1px dashed black; padding: 2px; display: inline-block;">VA</div> $\leftrightarrow$ <div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div>		

The denominator determines the number of parts of the object.

Thus:

- $\frac{1}{3}$  determines the 3 parts
- $\frac{1}{2}$  determines the 2 parts
- $\frac{1}{1}$  determines the 1 part

Hence:

- $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part or Past of quantity

Please share this with Friends

#### The Future and Past are Void

##### a) Future:

If time is slowed and yours isn't, your time will be faster than other people's time; therefore your time will be in the future of other people's/matter's time. If you move, you'll leave vacuum because it will take a longer time for air or any other matter to fill your space because its time has been slowed; hence the future is void.

##### b) Past:

If time is stopped and yours isn't, the time of every matter, will be in the past because their time has been stopped. If you move, you'll leave vacuum because no air or any other matter will fill your space because its time has been stopped; hence the past is void also.

#### Proving that Past and Future are Vacuum

##### i. Past:

When an object is moved from point A to B, point A becomes the past of point B because the object was (= past) in Point A and now (= present) is in point B; but point A is vacuum unless air or any other matter fills its space. This is because when the object moved from point A, an empty space (= vacuum) was formed (unless air or other matter fills this space).  
(nb Time = Distance/Speed)

##### ii. Future:

When one expects an object to move from point A to B, the object doesn't move to point B because it's just an expectation of the future; but if for some reason it moves to point B, the distance between point A to B becomes empty space (= vacuum) unless air or any other matter fills the space. Since any expectation of a latter time is the future, the distance between point A and B is the future at the lime the movement of the object was taking place.  
(nb Time= Distance/Speed)

**Let Tennessee be the Quantity** above.

As you can see, **Tennessee becomes the past when divided by zero**. From a practical/scientific point of view, Tennessee is part of the earth. The **earth is moving all the time around the sun**. If Tennessee was the earth, then it would leave vacuum (= past) behind. That is, as the earth revolve around the sun, it leaves vacuum (= past) behind and connects with vacuum (= future) in front (because outer space is vacuum).

Therefore **since Tennessee is part of the earth, it becomes vacuum when divided by zero**.

If you wish to make calculations using vacuum, please see here. Thank you again.

**Zero was invented later. Why can't we create another number between 1-10?**

<https://qr.ae/pG87a0>

# 29

Does 0 have a reciprocal?

---

Link: <https://qr.ae/pG1py0>

**Answered 29 March, 2021**

The reciprocal is defined as the multiplication inverse: "In **mathematics**, a **multiplicative inverse** or **reciprocal** for a number  $x$ , denoted by  $1/x$  or  $x^{-1}$ , is a number which when **multiplied** by  $x$  yields the **multiplicative identity**, 1"

**Multiplicative inverse:** [https://en.m.wikipedia.org/wiki/Multiplicative\\_inverse](https://en.m.wikipedia.org/wiki/Multiplicative_inverse)

So what you are actually asking is "**Why does zero not have a multiplicative inverse?**"

To answer your question: **Zero does indeed have a multiplicative inverse but the resultant inverse seems not to make a lot of sense** e.g.

Reciprocal of 3 =  $1/3$

**Note** Multiplying a number by Its reciprocal **always results to 1** (hence its relation with the multiplicative inverse)

Hence  $3 \times 1/3 = 1$

So for zero, the reciprocal is  $1/0$

Now let's find its multiplicative inverse via multiplying zero by its reciprocal

**$0 \times 1/0 = 1?$**

We find an anomaly here, **there is no number you can multiply with 0 to get 1.**

In other words 0 is not equal to 1. **If they were equal then zero would have a reciprocal** i.e.

If **0 = 1** then " $0 \times (1/0) = 1$ " must be equal to " $0 \times (1/0) = 0$ "

This is where it gets tricky, please see here

**Why is 0=2?** <https://qr.ae/pN01SI>

# 30

Zero was invented later. Why can't we create another number between 1-10?

---

Link: <https://qr.ae/pG87a0>

**Answered 27 March, 2021**

If I understand you correctly you mean **numbers in terms of units not numerals** e.g. **unit 1 & 0 make up 10, unit 1 & 1 = 11** and so on.

So you are wondering whether it's possible to **create another unit other than 0 to 9.**

This is an extremely important question because it entails the skeleton or gist of mathematics and science as we know it.

The answer is no, because we can make up any number we wish using unit 0 to 9.

**But there is an exception to this rule: Division by zero.**

Considering division by zero is undefined (which is just a fancy word for **not understood**), any number that defines this enigma can be accepted in my view.

These two charts can act as pioneers towards this noble course: In the first chart, it explains the **frame work**. The second chart identifies a suitable **symbol for the number:**

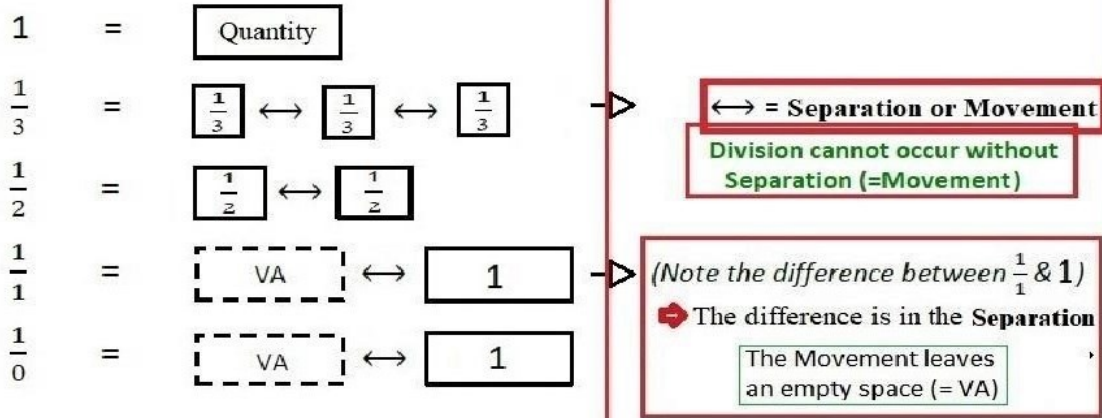
# 1) Suitable Frame Work for Division by Zero

## DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

**Scientific Method Used:** A Sequence Mathematical Method from  $1/3$  to  $1/0$

Figure showing Division of a Quantity



The denominator determines the number of parts of the object.

Thus:  $\frac{1}{3}$  determines the 3 parts

$\frac{1}{2}$  determines the 2 parts

$\frac{1}{1}$  determines the 1 part

Hence:  $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part or Past of quantity

Please share this with friends

### The Future and Past are Void

#### a) Future:

If time is slowed and yours isn't, your time will be faster than other people's time; therefore your time will be in the future of other people's/matter's time.  
If you move, you'll leave vacuum because it will take a longer time for air or any other matter to fill your space because its time has been slowed; hence the future is void.

#### b) Past:

If time is stopped and your isn't, the time of every matter, will be in the past because their time has been stopped.  
If you move, you'll leave vacuum because no air or any other matter will fill your space because its time has been stopped; hence the past is void also.

### Proving that Past and Future are Vacuum

#### i. Past:

When an object is moved from point A to B, point A becomes the past of point B because the object was (= past) in Point A and now (= present) is in point B; but point A is vacuum unless air or any other matter fills its space. This is because when the object moved from point A, an empty space (= vacuum) was formed (unless air or other matter fills this space).  
(nb Time = Distance/Speed)

#### ii. Future:

When one expects an object to move from point A to B, the object doesn't move to point B because it's just an expectation of the future; but if for some reason it moves to point B, the distance between point A to B becomes empty space (= vacuum) unless air or any other matter fills the space. Since any expectation of a latter time is the future, the distance between point A and B is the future at the lime the movement of the object was taking place.  
(nb Time= Distance/Speed)

## 2) Suitable Symbol for the Frame Work

### Symbol for Vacuum

(Source: Vacuum Calculation Burden of Proof PDF paper)

The first Latin letter of the word 'vacuum' or 'vacuus' in Latin is v; when the 'v' is joined on its open ends with a slightly curved line, it becomes  $\mathcal{V}$ , hence the universal symbol for vacuum should be  $\mathcal{V}$ , e.g.  $\mathcal{V} + 0 = 0$ , Reciprocal of  $\mathcal{V} = 1/\mathcal{V} = 0$  i.e.  $1/\mathcal{V} = 1 \div \mathcal{V} = 1 \div 1/0 = 0$ , Opposite of  $\mathcal{V} = \text{Reciprocal} = 0$  and so on.

### Hypothesis

When ' $\mathcal{V}$ ' is placed before a number, it means the number has a past; when placed after a number, it means the number has a future i.e. it's mandatory for the number to be calculated again later (= in the future), in the same calculation and in the same way before the specific calculation ends. After the number has been calculated, it retains its Future because it's part of the number; also it attains a Past because it was (= past) calculated again. This results in the number having both a future and a past just like other ordinary numbers - **Ordinary numbers have a past and a future because they represent quantities which do.**

### Elaboration

$$\begin{aligned} \bullet \quad 5\mathcal{V} \times 2\mathcal{V} &= (\mathcal{V}5 \times \mathcal{V}2) \times (\mathcal{V}5 \times \mathcal{V}2) \\ &= \mathcal{V}10 \times \mathcal{V}10 = \mathcal{V}100 = \mathcal{V}100\mathcal{V} = 100 \end{aligned}$$

NB In this calculation, its Future is reached via multiplication

$$\begin{aligned} \bullet \quad 5\mathcal{V} + 2\mathcal{V} &= (\mathcal{V}5 + \mathcal{V}2) + (\mathcal{V}5 + \mathcal{V}2) \\ &= \mathcal{V}7 + \mathcal{V}7 = \mathcal{V}14 = \mathcal{V}14\mathcal{V} = 14 \end{aligned}$$

NB Future is reached via addition.

### Writing Time Numbers in Words

- 05 = 5 = Five
- $\mathcal{V}5$  = Past Five 1<sup>st</sup> Future
- $\mathcal{V}5 = \mathcal{V}5\mathcal{V} = 5 = \text{Five}$

NB When a number has a Past (e.g.  $\mathcal{V}5$ ), it must have had a Future (i.e.  $5\mathcal{V}$ ) that resulted in its Past hence  $\mathcal{V}5 = \mathcal{V}5\mathcal{V} = 5$

- 50 = Fifty,
- $5\mathcal{V}$  = Five Future (or Five 1<sup>st</sup> Future).
- 500 = Five hundred,
- $5\mathcal{V}\mathcal{V}$  = Five 2<sup>nd</sup> Future.

### Solving Equations using Time Numbers

#### Example 1

Use the 2<sup>nd</sup> Future of 3 to solve the equation:

$$3 \times 2 = x$$

#### Solution

Let the 2<sup>nd</sup> Future of 3 be y i.e.  $3\mathcal{V}\mathcal{V} = 3y$

$$\begin{aligned} 3 \times 2 = x \quad \text{but} \quad 3\mathcal{V}\mathcal{V} \times 2 &= (2 \times 3) \times 3 \times 3 \\ &= 54 \end{aligned}$$

$$\text{Thus} \quad 3y \times 2 = 54$$

$$3y = 27$$

$$y = 9$$

$$\text{Therefore} \quad 3(\times 9) \times 2 = 54$$

$$3 \times 2 = 54/9 = 6$$

$$3 \times 2 = 6$$

$$\text{Hence} \quad x = 6$$

In this case, we have used the 2<sup>nd</sup> Future of 3 (=  $3\mathcal{V}\mathcal{V}$ ), attained via multiplication, to solve a Real Time problem.

#### Example 2

Use the 1<sup>st</sup> Future of 7 to solve the equation:  $3 + 7 = x$

#### Solution

Let the additive 1<sup>st</sup> Future of 7 be y i.e.  $7\mathcal{V} = 7 + y$

$$\begin{aligned} 3 + 7 = x \quad \text{but} \quad 3 + 7\mathcal{V} &= (3 + 7) + 7 \\ &= 17 \end{aligned}$$

$$\text{Thus} \quad 3 + 7 + y = 17$$

$$y = 17 - 10$$

$$y = 7$$

$$\text{Therefore} \quad 3 + 7(+7) = 17$$

$$3 + 7 = 17 - 7$$

$$3 + 7 = 10$$

$$\text{Hence} \quad x = 10$$

In this case, we have used the 1<sup>st</sup> Future of 7 (=  $7\mathcal{V}$ ), attained via addition, to solve a Real Time problem.

To understand more about this specific framework, please see here:

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH>

# 31

What is  $0^0$ ?

---

Link: <https://qr.ae/pGuSO1>

**Answered 27 March, 2021**

$0^0$  is equal to  $0^0$ .

$0^0$  is equal to  $0^1 \div 0^1 = 0^{1-1} = 0^0$

Hence  **$0^0 = 0/0$**

To answer your question, what is  $0/0$ ? **see here**

**What happens if you divide by zero?** <https://qr.ae/pGuxb4>

# 32

What are the real numbers between 0 and 2?

---

**Answered March, 27**

Link: <https://qr.ae/pGuSgA>

This question is same as the amount of numbers between 0 and 2. Considering decimals are numbers, I would think the numbers are infinite.

Take note that **infinity is a construction of the mind** because it's defined by where you choose finite to end e.g. if we choose that finite ends at 3, then 4 becomes infinity because it is infinite as per the rule we have set. In other words the numbers between 0 and 2 are as many or few as our set rules of finite & infinity; but **there is an exception to this rule:**

**Operations between Finite Quantities of 0 and 2:**

**Since the difference (= subtraction) between 0 & 2 is 2, then the difference in real numbers between 0 & 2 must be -2.**

Take note that it's **-2** not **2** because the question is about real numbers between 0 & 2 which means  $0 - 2 = -2$ .

If the question was the difference in real numbers between 2 & 0, then the answer would be 2 because  **$2 - 0 = 2$** .

I think you get the picture, the answer is varied depending on the operation used:

If it's subtraction or addition then the answer is  $-2$

Addition because  $0 + (-2) = -2$

If it's division or multiplication then the answer is infinite because of the infinite decimal numbers in multiplication & division.

Please note that **multiplication & division are nothing but repeated addition & subtraction**, see link below.

Therefore **to answer your question**,

If you are strictly using **addition or subtraction, the answer is  $-2$** .

If it's **division or multiplication, the answer is infinite**.

**We have multiplication, division, addition, and subtraction. Is it possible to create a new one?** <https://qr.ae/pN0p1P>

# 33

How do I make 1 and 0 equal 3, using any operations?

---

Link: <https://qr.ae/pGuSbb>

**Answered 27 March, 2021**

If subtraction of physical quantities (e.g. subtraction of an orange) qualifies as an operation to you then see here:

**Why is  $0=2$ ?** <https://qr.ae/pN01SI>



# 34

Would 0/0 be 0% or 100% if it wasn't undefined?

---

Link: <https://qr.ae/pGuSuB>

**Answered 27 March, 2021**

I think the question itself is undefined because it assumes all the answers will be false or undefined. Having said this, if the question is whether:

**0/0 = 100% or 0%**

**Note** 100% = 100/100 = 1

**and** 0% = 0/100 = 0

Therefore the question is whether:

**0/0 = 1 or 0**

I have elaborated on this here:

**Would 0/0 be 0% or 100% if it wasn't undefined?** <https://qr.ae/pGuSuB>

# 35

What does the “not (0)” symbol mean?

---

Link: <https://qr.ae/pGXYvg>

**Answered 21 March, 2021**

This is a brilliant question because it enables us understand the various definitions in mathematics used to denote zero. The symbol ( $\emptyset$ ) is mainly used in set theory to denote zero. It's also called an empty set. In other words a “not (0)” or “ $\emptyset$ ” **symbol simply means a zero in set theory.**

- In **set theory**, 0 is the **cardinality** of the **empty set**: if one does not have any apples, then one has 0 apples. In fact, in certain axiomatic developments of mathematics from set theory, 0 is *defined* to be the empty set. When this is done, the empty set is the **von Neumann cardinal assignment** for a set with no elements, which is the empty set. The cardinality function, applied to the empty set, returns the empty set as a value, thereby assigning it 0 elements. Wikipedia

See here

**Zero** [https://en.m.wikipedia.org/wiki/0#Other\\_branches\\_of\\_mathematics](https://en.m.wikipedia.org/wiki/0#Other_branches_of_mathematics)

**Take note that an empty set does not mean nothing because the set is exists:** The practical example given above to elaborate an empty set is "if one does not have any apples, then one has 0 apples."

This is how you prove that **an empty set is not nothing**:

**If you multiply two empty sets, you get 1** because of the multiplicative identity.

But if you multiply zero with zero, you don't get 1. If I multiply no apples with zero apples, surely I should get zero apples. This is not the case with set theory. See here

**Empty product** [https://en.wikipedia.org/wiki/Empty\\_product](https://en.wikipedia.org/wiki/Empty_product)

In simple terms, zero cannot be defined as nothing because  **$0^1$  is not equal to  $0^0$** , see here

**What happens if you divide zero by zero?** <https://qr.ae/pN010E> (Page 48)

# 36

## What is the unification of zero?

---

Link: <https://qr.ae/pGXYye>

**Answered 21 March, 2021**

The unification of zero is **the agreed definition(s) of zero across all branches of mathematics & sciences and it falls under the Unifying Theories in Mathematics**. It is this unification that helps define **what constitutes the numeral zero as the subject** across different disciplines in science & mathematics.

Since branches of mathematics and sciences keep making new discoveries, the definition of zero will keep growing in relation to those discoveries.

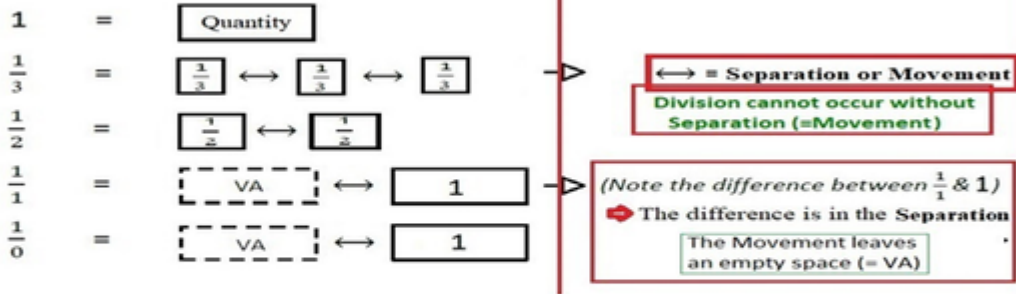
An example of a unique way to view division by zero is portrayed below:

# DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

Scientific Method Used: A Sequence Mathematical Method from  $1/3$  to  $1/0$

Figure showing Division of a Quantity



The denominator determines the number of parts of the object.

Thus:  $\frac{1}{3}$  determines the 3 parts

$\frac{1}{2}$  determines the 2 parts

$\frac{1}{1}$  determines the 1 part

Hence:  $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part or Past of quantity

Please share this with friends

The unification of zero falls under the **Unifying theories in mathematics**, see here

## Unifying theories in mathematics

[https://en.wikipedia.org/wiki/Unifying\\_theories\\_in\\_mathematics](https://en.wikipedia.org/wiki/Unifying_theories_in_mathematics)

# 37

Why is a number division by zero undefined? Doesn't zero mean "no"?  
 After all, dividing a number by zero means not dividing it at all. I think  
 $3:0 = 3?$

Link: <https://qr.ae/pNfuSw>

**Answered: 17 March, 2021**

You are actually asking three questions in one:

### 1. Why is a number division by zero undefined?

If I am to be honest with you, undefined simply means '**no one has defined it yet**' hence undefined. In other words, mathematician understand division by zero in terms of what zero and division means but can't define the end result. That's why their answers range from infinity, NaN, Error all the way to indeterminate.

### 2. Doesn't zero mean "no"?

It depends what you mean by "no"

If by "no" you mean don't use zero then ' $0 \times 0$ ' would be undefined because we cannot use the zeros.

### 3. **Dividing a number by zero means not dividing it at all e.g. $\frac{3}{0} = 3$ .**

I must agree with you on this one because **there is a difference between  $\frac{0}{1}$  and  $\frac{0}{0}$**  :

- $\frac{0}{1}$  means dividing by 1 i.e. **zero dividing by 1**
- $\frac{0}{0}$  means dividing by 0 i.e. **zero dividing by 0**
- Therefore  $\frac{0}{1}$  **is not equal to**  $\frac{0}{0}$   
Or  **$0^1$  is not equal to  $0^0$**
- **My point here is the meaning of zero ( $0^1$ ) in the numerator is not the same as the meaning of zero ( $0^0$ ) in the denominator.**

Zero (in the denominator) does not mean nothing, **see here:**

**Can zero covid ever be achieved?** <https://qr.ae/pNf1dq> (Page 44)

- **Zero in the denominator actually means nothing** (because you are dividing by zero not 1 as I elaborated earlier). To understand the intricacies of zero in division by zero, **see here:**

**What happens if you divide zero by zero?** <https://qr.ae/pN010E> (Page 48)

# 38

## Can zero covid ever be achieved?

---

Link: <https://qr.ae/pNf1dq>

### **Answered 16 March, 2021**

If you are asking this question from a medical perspective then I don't think it is possible, though this is not my area of interest.

Having said this, it is important to note that in linguistics, zero means nothing. But in sciences, it can get a bit complicated.

Zero does not mean nothing in science that's why we have trivial and non-trivial zeros. It even gets more complicated like when we talk about the powers of zeros e.g.  $0^0$  is not equal to  $0^1$ .

So if you were to define zero as nothing, what about  $0^0$  and which among them is greater?

It even gets worse: If negative one is less than zero, then it must be nothing. If it is nothing, then how can you add nothing with another nothing and get a different nothing? e.g.  $-1 + (-1) = -2$  but  $0 > -2$ , hence  $-2$  is nothing in linguistics.

The best example is always a scientific one:

If you multiply 2 eggs by zero, you get zero i.e.  $2 \times 0 = 0$

But if you multiply 2 eggs by nothing, you get 2 eggs because you did not multiply them with anything. Hence  $2 \times 0 = 2$

But you may say, science is wrong to say that " $2 \times 0 = 0$ " instead of " $2 \times 0 = 2$ ". The answer to this is that science has never said (= proven) that zero is nothing. This is a misconception from linguistics because in science, you MUST prove or disapprove, period.

See here for more details about how complicated it can get.

**Why is  $0=2$ ?** <https://qr.ae/pN01SI> (Page 55)

The reason why it gets complicated is because in science, we deal with computations or calculations e.g. all scientific laws must be written using a mathematical method (i.e. using numbers) otherwise, they don't qualify as scientific laws.

But in linguistics, this is not necessary hence zero can be used to mean "zero in" which means investigate. "Zero in" has nothing to do with number zero in science, however it has something to do with zero in linguistics. I think you get the point.

In science it's all about proofs and disproofs. In linguistics, it's all about the art communication.

# 39

We have multiplication, division, addition, and subtraction. Is it possible to create a new one?

---

Link: <https://qr.ae/pN0p1P>

**Answered 12 March, 2021**

This is a very interesting question. I have a simple answer:

## The Number line

[https://en.wikipedia.org/wiki/Number\\_line](https://en.wikipedia.org/wiki/Number_line)

All mathematical operations work as per the Number line.

For example, **Subtraction** means you go to the left, **Addition** means you go to the right. **Multiplication** and **Division** can go either way depending on whether the number is Positive or Negative.

So to answer your question, **we can create or de-create any operation except for Addition & Subtraction**: We cannot do without Addition and Subtraction because we will not be able to go **Right** or **Left** on the Number line.

In other words all operations are nothing but exaggerated/repeated Additions and Subtractions

Though this is the case, it is not always true for division by zero e.g.

$$8 \div 2 = ?$$

$$8 - 2 - 2 - 2 - 2 = 0.$$

**I subtracted 8 by 2, four times,**

$$\text{so } 8 \div 4 = 2.$$

$$8 \div 1 = ?$$

$$8 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 = 0.$$

**I subtracted 8 by 1, eight times,**

$$\text{so } 8 \div 8 = 1.$$

**Hence**

$$8 \div 0 = ?$$

$$8 - 0 - 0 - 0 - 0 - 0 - 0 \dots \neq 0$$

I am supposed to subtract 8 by 0, infinity times, right?

But **8 - 0 is not equal to 0**, hence **using infinity is futile** and useless since **the end result must be zero** yet  $8 - 0 = 8$

As you can see, it seems we have reached a dead end.

**But there is something we haven't tested yet:**

There are two types of zeros:

$$0_1 = 0^1 = 0$$

$$0_0 = 0^0$$

**NOTE**  $0_0 = 1_0$  see here:

**What happens if you divide zero by zero?** <https://qr.ae/pN010E>

Actually  $0^0$  is the 'right zero' to use because

$$8 \div 0 \text{ is equal to } 8 \times (1_0) \text{ because } 8_1 \times 1_0 = 8_0 \text{ hence } 0^0$$

$$8 \div 0 \text{ is not equal to } 8 \times (0_1) \text{ because } 8_1 \times 0_1 = 0_1 \text{ hence } 0^1$$

As rightly proven, **the problem was not with the calculation but with the use of the 'wrong zero.'**

Now let's do the same calculations but using the 'right zero'

$$8 \div 0 = ?$$

$$8 - 0^0 = 0$$

I subtracted 8 by  $0^0$ ,  $0^0$  times (though it doesn't really matter how many times you subtract  $0^0$ )

**But what is  $1/0$  anyway?** Luckily, there is a way of understanding  $1/0$  by use of a mathematical sequence e.g. what is the meaning of dividing an orange into 3 parts, 2 parts, 1 part hence zero part. To avoid repeating the same answer see here:

**The analysis has been done here:**

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH> (Page 51)

## 40

What is actually the difference between "a number divided by half" and "a number divided in half"?

---

Link: <https://qr.ae/pN0Tjk>

**Answered 12 March, 2021**

Say 1 is the number to be divided,

$$\text{A number divided by half} = 1 \div \frac{1}{2} = 1 \times 2 = 2$$

$$\text{A number divided in half} = 1 \times \frac{1}{2} = \frac{1}{2}$$

P.S.

To get into a debate about the definition of division in the solving division by zero see here: [My Academic Review Vacuum Calculations Burden of Proof](#)

## 41

When 3 divided by 3 is equal to 1, then if 0 divided by 0, what will the answer be?

---

Link: <https://qr.ae/pN0T8n>

**Answered February 22, 2021**

I assume you are enquiring if  $0/0 = 1$  since any number divided by itself is 1, that is:

$$\text{Since: } 2/2 = 2^1 \div 2^1 = 2^{1-1} = 2^0 = 1$$

Is:  $0/0 = 0^1 \div 0^1 = 0^{1-1} = 0^0 = 1$ ?

The answer is NO. Zero divided by Zero does not equate to 1 as I explained here:

**How do you prove  $x^0 = 1$ ?** <https://qr.ae/pN01Jl> (Page 54)

My Academic Review Vacuum Calculations Burden of Proof: <https://zenodo.org/record/4304933>

# 42

## What happens if you divide zero by zero?

---

Link: <https://qr.ae/pN010E>

**Answered February 22, 2021**

In division, the denominator (divisor) determines the calculation outcome, for example:

$$1/2 = \mathbf{2 \text{ parts}} \text{ of } 1 = \mathbf{1/2} \times 1 = 1/2$$

$$2/2 = \mathbf{2 \text{ parts}} \text{ of } 2 = \mathbf{1/2} \times 2 = 2/2$$

$$\text{Hence } 0/0 = \mathbf{0 \text{ part}} \text{ of } 0 = \mathbf{1/0} \times 0 = 0/0$$

$$\text{But } \mathbf{1/0} \times \mathbf{0} = \mathbf{1^1} \div \mathbf{0^1} \times \mathbf{0^1} = \mathbf{1^1} \div \mathbf{0^2}$$

$$1^1 \div 0^2 = 1^1 \div 0^1 = 1 \div 0$$

$$1 \div 0 = 1/0$$

$$\text{Therefore } \mathbf{0/0} = \mathbf{1/0} \text{ because } \mathbf{0^0} \neq \mathbf{0^1}$$

$$\text{Or } 0/0 \neq 0/1$$

**Now to answer your question:** To solve  $1/0$  you use a mathematical sequence, that is:

$1/3, 1/2, 1/1$  hence  $1/0$  as I previously explained & demonstrated here:

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH> (Page 51)

From this illustration, we can deduce the common denominator is division. I call it real division because it applies in reality. Real division can also be called separation. Separation cannot occur without movement as deduced from the sequence.

Therefore as shown from the illustrated sequence of real division, the answer to  $1/0$  is VA. VA stands for Vacuum. Vacuum in mathematics is defined as absence of quantity.



Again I will use the sequence method to prove my definition: Say we have two quantities, one quantity, zero quantity, one negative quantity and so on.

Before I explain this, you may be tricked into thinking that Zero is VA. But as I mentioned in your previous question "why is  $0=2$ ?" (link below), Zero can be equivalent to any number you wish, therefore it cannot be an absent quantity. Zero can represent any number as I explained in the said Quora forum here:

**Why is  $0=2$ ?** <https://qr.ae/pN01SI> (Page 55)

Now that this has been cleared out, I will go back to the sequence but this time there will be no "zero quantity": We will have 3 quantities, 2 quantities, 1 quantity then an absent quantity (= VA)

One may argue that an absent quantity is not a quantity and therefore not a number. This is correct if you don't understand what vacuum is.

As I said earlier, VA in mathematics is absence of quantity because in mathematics we use quantities not matter.

Say I move a quantity from point A to B. Point A will be VA because the quantity is ABSENT in point A. Point A is also the PAST of point B because the object WAS (= Past) in point A and NOW (= Present) is in point B.

From this analysis we can deduce that VA is the Past of a quantity hence the Past of a number.

Therefore since the PRESENT is a calculation of the PAST, then the PAST can be calculated.

Therefore VA is a SIGN that represents PAST quantities but not representing PRESENT quantities. Numbers are SIGNS that represent PRESENT quantities (e.g PRESENT quantity = 1) hence VA is a number as well (e.g PAST Quantity =  $1/0$  or VA)

I have left some links in this PDF paper if you may wish to delve deeper into this and analyze how to calculate VA (e.g.  $VA + 1 = ?$ ) or how to interpret  $0/0$ . Please download this PDF paper and understand it first because it's the basis of my solution.

<https://zenodo.org/record/4304933>

DIVISION BY ZERO CAN BE SOLVED.

# 43

Why is  $5/0 = \text{error}$ , and not 0? Let's say that we have five apples that we want to divide on a non-existent human. Since that human doesn't exist, shouldn't he have zero apples?

---

Link: <https://qr.ae/pN016E>

## **Answered February 21, 2021**

Firstly let's be clear, this type of analogy of the description of division is false: You have 5 apples, and you have humans. There's is no common denominator. This is because it relates (= relative) to both apples and humans. In other words, you cannot divide unlike terms in mathematics e.g.  $y/y=1$  but  $y/z \neq 1$  (where  $y \neq z$ ) hence you cannot divide apples in relation to humans, instead you divide them in relation to themselves, that is, the apples.

But if you do the latter, the statement will not make sense e.g. If you share an apple among 2 apples (=  $a/2a$ ), how many apples will each apple get? ( $=1/2$ )  $a^2$

Note:  $a = 1\text{apple}$

This is the correct mathematical statement because " $a/2a = (1/2) a^2$ " but even though it's correct, it doesn't make sense. This leads to mathematical conjectures (= educated guess work) that has nothing to do with mathematics; that is, it's acceptable to assume that even though the apples are being given to humans, they remain apples. This seems correct until you realize the equation would then have to look like this: " $(a/2a) + 2h$ " where  $h=\text{human}$ .

Now that this is clear, let's attempt to solve the problem mathematically without the "h" factor.

$5/0$  means 5 divided into zero parts; not  $(5/0) + h$

To understand or analyze what  $5/0$  means, we will have to deduce or make comparisons with similar calculations: What do these calculations mean:  $1/3$ ,  $1/2$ ,  $1/1(=5/5)$  and finally  $1/0$ ?

To understand this mathematical sequence in a clear and precise way, please review my answer on a previously asked question regarding division by zero **here**:

**What is  $1 \div 0$ ?** <https://qr.ae/pN01mH> (Page 51)

From this illustration, we can deduce the common denominator is division. I call it real division because it applies in reality. Real division can also be called separation. Separation cannot occur without movement as deduced from the sequence.

Therefore as shown from the illustrated sequence of real division, the answer to  $1/0$  is VA. VA stands for Vacuum. Vacuum in mathematics is defined as absence of quantity.

Again I will use the sequence method to prove my definition: Say we have two quantities, one quantity, zero quantity, one negative quantity and so on.

Before I explain this, you may be tricked into thinking that Zero is VA. But as I mentioned in your previous question "why is  $0=2$ ?" (link below), Zero can be equivalent to any number you wish, therefore it cannot be an absent quantity. Zero can represent any number as I explained in the said Quora forum here:

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Now that this has been cleared out, I will go back to the sequence but this time there will be no "zero quantity": We will have 3 quantities, 2 quantities, 1 quantity then an absent quantity (= VA)

One may argue that an absent quantity is not a quantity and therefore not a number. This is correct if you don't understand what vacuum is.

As I said earlier, VA in mathematics is absence of quantity because in mathematics we use quantities not matter.

Say I move a quantity from point A to B. Point A will be VA because the quantity is ABSENT in point A. Point A is also the PAST of point B because the object WAS (= Past) in point A and NOW (= Present) is in point B.

From this analysis we can deduce that VA is the Past of a quantity hence the Past of a number.

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Therefore VA is a SIGN that represents PAST quantities but not representing PRESENT quantities. Numbers are SIGNS that represent PRESENT quantities (e.g. PRESENT quantity = 1) hence VA is a number as well (e.g. PAST Quantity =  $1/0$  or VA)

I have left some links in this PDF paper if you may wish to delve deeper into this and analyze how to calculate VA (e.g.  $VA + 1 = ?$ ) or how to interpret  $0/0$ . Please download this PDF paper and understand it first because it's the basis of my solution.

<https://zenodo.org/record/4304933>

# 44

## What is $1 \div 0$ ?

---

Link: <https://qr.ae/pN01mH>

**Answered February 14, 2021**

Originally Answered: What is your answer to  $1/0$ ?

I am glad you asked "what is (or answer to) 1/0?" instead of "what is the calculation for 1/0?"

The difference between the two is that the first question has to do with the qualities of 1/0 while the latter has to do with calculations based on conjectures.

Any sound mathematician will never solve a mathematical problem without first understanding the characteristics of a calculation. I call this analytical mathematics.

So to answer your question, we will need to compare what we don't know with what is already known. We call this deduction.

To deduce 1/0, we need to first deduce 1/3, 1/2, 1/1 and then finally we will be able to understand 1/0.

This type of deduction is called a sequence.

Deduction is part of both Applied Mathematics & Pure Mathematics because of the sequence characteristic. No one has ever been successful in giving us a reliable answer to 1/0 but now it's possible:

## DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

**Scientific Method Used:** A Sequence Mathematical Method from 1/3 to 1/0

**Figure showing Division of a Quantity**

1	=	Quantity		
$\frac{1}{3}$	=	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px;"><math>\frac{1}{3}</math></div> <span>↔</span> <div style="border: 1px solid black; padding: 2px 5px;"><math>\frac{1}{3}</math></div> <span>↔</span> <div style="border: 1px solid black; padding: 2px 5px;"><math>\frac{1}{3}</math></div> </div>	→	↔ = Separation or Movement Division cannot occur without Separation (=Movement)
$\frac{1}{2}$	=	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px;"><math>\frac{1}{2}</math></div> <span>↔</span> <div style="border: 1px solid black; padding: 2px 5px;"><math>\frac{1}{2}</math></div> </div>		
$\frac{1}{1}$	=	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px dashed black; padding: 2px 5px;">VA</div> <span>↔</span> <div style="border: 1px solid black; padding: 2px 5px;">1</div> </div>	→	(Note the difference between $\frac{1}{1}$ & 1) The difference is in the Separation The Movement leaves an empty space (= VA)
$\frac{1}{0}$	=	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px dashed black; padding: 2px 5px;">VA</div> <span>↔</span> <div style="border: 1px solid black; padding: 2px 5px;">1</div> </div>		

The denominator determines the number of parts of the object.

Thus:

- $\frac{1}{3}$  determines the 3 parts
- $\frac{1}{2}$  determines the 2 parts
- $\frac{1}{1}$  determines the 1 part

Hence:

- $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part or Past of quantity

Please share this with friends

From this illustration, we can deduce the common denominator is division. I call it real division because it applies in reality. Real division can also be called separation. Separation cannot occur without movement as deduced from the sequence.

Therefore as shown from the illustrated sequence of real division, the answer to  $1/0$  is VA. VA stands for Vacuum. Vacuum in mathematics is defined as absence of quantity.

Again I will use the sequence method to prove my definition: Say we have two quantities, one quantity, zero quantity, one negative quantity and so on.

Before I explain this, you may be tricked into thinking that Zero is VA. But as I mentioned in your previous question "why is  $0=2$ ?" (link below), Zero can be equivalent to any number you wish, therefore it cannot be an absent quantity. Zero can represent any number as I explained in the said quora forum here:

**Link: Why is  $0=2$ ?** <https://qr.ae/pN01SI> (Page 55)

Now that this has been cleared out, I will go back to the sequence but this time there will be no "zero quantity": We will have 3 quantities, 2 quantities, 1 quantity then an absent quantity (= VA)

One may argue that an absent quantity is not a quantity and therefore not a number. This is correct if you don't understand what vacuum is.

As I said earlier, VA in mathematics is absence of quantity because in mathematics we use quantities not matter.

Say I move a quantity from point A to B. Point A will be VA because the quantity is ABSENT in point A. Point A is also the PAST of point B because the object WAS (= Past) in point A and NOW (= Present) is in point B.

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I have left some links in this PDF paper if you may wish to delve deeper into this and analyze how to calculate VA (e.g.  $VA + 1 = ?$ ) or how to interpret  $0/0$ . Please download this PDF paper and understand it first because it's the basis of my solution.

Link: [My Academic Review Vacuum Calculations Burden of Proof](#)

# 45

How do you prove  $x^0 = 1$ ?

Originally Answered: How do you write the mathematical proof that any number to the zero power is 1?

Link: <https://qr.ae/pN01Jl>

**Answered February 14, 2021**

The reason why zero to the power of zero is not 1

Quora.com/David Kathuri

## Mathematical Proof that Zero to the Power of Zero is not 1

$$\frac{3}{3} = \frac{3^1}{3^1} = 3^{1-1} = 3^0 = 1 \quad \text{because} \quad \frac{3}{3} = 1$$

$$\frac{2}{2} = \frac{2^1}{2^1} = 2^{1-1} = 2^0 = 1 \quad \text{because} \quad \frac{2}{2} = 1$$

$$\frac{1}{1} = \frac{1^1}{1^1} = 1^{1-1} = 1^0 = 1 \quad \text{because} \quad \frac{1}{1} = 1$$

$$\frac{0}{0} = \frac{0^1}{0^1} = 0^{1-1} = 0^0 = 1 \quad \text{but} \quad \frac{0}{0} \neq 1$$

Hence  $0^0 \neq 1$

**Reason:** Zero is Positive & Negative at the same time,  
that is:  $-0 = +0 = \pm 0$

## Mathematical Proof

$$\frac{3}{3} = \frac{3^1}{3^1} = 3^{1-1} = 3^0 = 1$$

$$\frac{-3}{+3} = \frac{-3^1}{+3^1} = -3^{1-1} = -3^0 = 1 \quad \text{but} \quad \frac{-3}{+3} \neq 1$$

Since  $\frac{-3}{+3} \neq 1$  then  $\frac{-0}{+0} \neq 1$

Hence  $\frac{\pm 0}{\pm 0} \neq 1$

For more info on the **solution for division by zero** go to:

<https://zenodo.org/record/4304933>

Link: <https://zenodo.org/record/4304933>

# 46

## Why is $0 = 2$ ?

---

Originally Answered: Why does  $0=2$ ?

Link: <https://qr.ae/pN01SI>

### **Answered February 11, 2021**

The best approach is to define zero via calculations rather than conjectures.

If we add 1 by 1, we get two. In the same way, if we take away 1 from 1, we get zero.

This sounds correct until we analyze it using a scientific method (= practically).

Say we add an orange to another orange, we get 2 oranges. In the same way, if we take away an orange from another orange we get zero orange, right? Wrong:

We originally started with 2 oranges, we took away only one orange. Hence we remain with one orange because we had 2 oranges to start with.

If you don't believe it, try it practically (= scientifically).

(Note: In mathematics we cannot calculate a single unit. The units must be two or more. In this context, we cannot subtract one orange from itself because all operators (such as addition, subtraction, division & multiplication) require at least two units e.g.  $1+1$  not  $1+?$ )

Therefore  $1 - (+1) = 1$  hence  $0 = 1$

Thus  $2 - (+2) = 2$  hence  $0 = 2$

From a scientific (as above) and mathematical perspective, we can prove that  $0=2$ . But if this was allowed, mathematics would lose meaning because any number will be equal to any other number.

The problem with  $0=2$  has to do with Division by Zero. This problem is solved by defining Division by Zero. It's possible to define Division by zero via science and applied mathematics. This proof enables us understand why  $0=2$ . Division by zero can be easily proven as the past (or future) of a given number. For example zero can be equal to 2 depending on how it's calculated in its future. Therefore  $0=2$  (when division by zero is involved). NOTE: It's impossible to come up with " $0=2$ " without having divided by zero in the first place. You can try it out if you have a contrary opinion.

For further information on how to SOLVE DIVISION BY ZERO download this PDF document paper because it contains all information required to start your journey on a firm and concrete premise: [My Academic Review Vacuum Calculations Burden of Proof.pdf](#)

# 47

In the derivation of remainder theorem, we divide  $f(x)$  by  $(x-a)$  where  $x=a$ . But  $(x-a)$  is just  $(a-a)$  which is zero. But anything divided by 0 is infinite, forcing us to conclude that  $f(x)$  is infinite which is wrong. What's wrong?

---

Link: <https://qr.ae/pN01cY>

## **Answered February 11, 2021**

What's wrong has to do with the meaning of polynomial. The question is based on the wrong premise because the Remainder Theorem is a polynomial. "In mathematics, a polynomial is an expression consisting of variables (also called indeterminates) and coefficients, that involves only the operations of addition, subtraction, multiplication, and non-negative integer exponentiation of variables." source Wikipedia

**Polynomial** <https://en.wikipedia.org/wiki/Polynomial>

Hence division is not required.

Secondly, you say anything divided by zero is infinite. Though not directly related to this question, I would like to share my thoughts on this:

Say that a number (e.g. 1) divided by zero is possible, where the denominator (or divisor) is a number that's approaching zero hence will eventually reach zero. Therefore 1 divided by zero is infinity.

This holds until you realize that any number that's not zero cannot be positive and negative at the same time i.e.  $\pm$  (no matter how close it approaches  $\pm 0$ ) e.g.  $+1=+1$  not  $\pm 1$  but  $\pm 0=\pm 0$

With this analysis it's very easy to make a firm & concrete analysis that a negative or positive number (other than zero) will never be equal to " $\pm$ " number (no matter how close it approaches  $\pm$ ) because a negative or positive number in division will remain so and can never equate to ' $\pm$ ' number hence Infinity is not a mathematical number. It's the same as saying a blue number, pink number and then trying to add them together while expecting a valid mathematical solution.

In simple terms, if you have oranges (or any other quantity) approaching infinity, they don't cease to be oranges just because you included the word Infinity to them. They will remain oranges no matter how infinite you wish them to become. It is the counting that may be limited to our ability to count them.



# 48

## Why was Brahmagupta's system of division by zero given up on?

---

Link: <https://qr.ae/pN01aI>

### **Answered January 29, 2021**

Firstly, we need to analyze the said Brahmagupta's system

"A positive or negative number when divided by zero is a fraction with the zero as denominator."

"Zero divided by a negative or positive number is either zero or is expressed as a fraction with zero as numerator and the finite quantity as denominator."

"Zero divided by zero is zero."

In the first case, he only asserts or recognizes that division by zero is a fraction. Therefore, in my view he is correct in his assertions.

In the second case, he is asserting the reciprocal of division by zero. In my view, his assertion is acceptable.

In the third case, he is actually claiming to solve the division by zero problem. This is where his solution (not system) was rejected (but not necessarily given up on) because it leads to this:

It is true that  $0/0=0$  but it's also true  $0/0=1,2,3\dots$

When  $y=1$  &  $y=2$  means  $1=2$

If  $1=2$  then every number can be equal any other number.

The question here is, is this possible? ( $1=2$ )

Most mathematicians would say it's not possible because it would make counting using numbers useless.

This is true, only if, numbers ignore the possibility of TIME in counting numbers. For example, the numeral 1 can be the numeral 2 in the Future, depending on how it's calculated in its Future.

The best practical example to understand this is by evaluating how our brains analyzes objects. For instance, a person with 2 eyes observing an orange will not see 2 oranges even though he has 2 eyes. This is because our brain understands Brahmagupta's system. Even though our 2 eyes should see 2 oranges ( $2=2$ ) rather than one ( $2=1$ ), our brains are intelligent enough to understand that some-times,  $2=1$ .

The science that explains this is simple and doable. It's under the topic "CONDUIT LOGIC" In the paper: VACUUM CALCULATIONS BURDEN OF PROOF. You will find the download link and other information in this PDF document: [My Academic Review Vacuum Calculations Burden of Proof.pdf](#)

Sorry but I cannot explain it all here but it involves how Time affects numbers. If you are interested on HOW TO SOLVE DIVISION BY ZERO please download the above PDF doc. IT'S POSSIBLE TO DIVIDE BY ZERO.

# 49

## Why is $1/0$ undefined but $0/0$ indeterminate?

---

Answering original question: Why is it concluded that zero divided by itself is undefined when a similar  $1/1$  is 1 and  $1/0$  is 0?

Link: <https://qr.ae/pN01UK>

### **Answered January 21, 2021**

First of all let's be clear: Conclusions made on something undefined are baseless and mundane. In other words, conclusions are based on scientifically sound discoveries but not on conjectures that rely on educated guess work. In layman's terms, If you see a conclusion that's undefined, then it's an undefined conclusion.

Secondly, division in mathematics does not mean multiplicative inverse, it simply means counting or computing. This is the case for all operators in Mathematics. For example you compute or count numbers by adding, subtracting, dividing and so on.

The multiplicative inverse does not compute anything, it simply rearranges the calculation.

E.g.  $1/0 = (1/0)$  therefore  $(1/0) \times 0 = 1$ . As you can see from this rearrangement, it's possible to conclude that multiplying zero with  $1/0$  can accurately and definitively give us the answer "1". But this is not the case.

Division simply means separation NOT multiplicative inverse. For example,  $1/2$  means 1 separated into 2 equal parts. This can be proven scientifically as the meaning of Division by dividing one quantity (e.g. an orange) into two parts.

Thirdly, you are correct in saying: the calculation  $1/1$  and  $1/0$  are similar (though  $1/0 \neq 0$ ).

You are correct because if you practically (=scientifically) divide an orange into 1 part, you will remain with the 1 part. In the same way, if you divide an orange into zero parts, then you haven't divided the orange at all, hence you'll still remain with the same orange.

Therefore one would assume  $(1/0) \times 0 = 1$  as we saw earlier (when I explained the meaning of the multiplicative inverse).

That is correct, but division means separation and separation means movement.

If I explain what I mean by movement, it would be off topic and make my answer too long, therefore follow this link if you are curious enough: [David Kathuri's share of "My Academic Review Vacuum Calculations Burden of Proof" in Division by Zero](#)

I assure you IT'S SCIENTIFICALLY (=PRACTICALLY) POSSIBLE TO DIVIDE BY ZERO.

# 50

## What does it mean when there is a zero in the denominator?

---

Link: <https://qr.ae/pN01gn>

### **Answered December 17, 2020**

The best way to tackle this question is to ask 'what does it mean when there is a 1 or 2 in the denominator?'

When we have a 2 in the denominator, it means the numerator must be divided into 2 parts.

When we have a 1 in the denominator, it means the numerator must be divided into 1 parts.

Therefore when we have a 0 in the denominator, it means the numerator must be divided into 0 parts.

But I am sure you already know this. I assume therefore that what you are actually asking is whether there is any significance in dividing by zero.

To understand the significance or importance of any mathematical problem, we apply it in a physical context.

So for instance, what does it mean to divide an orange into zero parts?

Again, the best way to solve this is to find out what it means to divide by 1 or 2 and so on.

If it is by 2, the orange must be divided into 2 parts. If it is by 1, the orange must be divided into 1 part. Therefore if it is by zero, the orange must be divided into zero parts.

Therefore, we may ask: What does it mean to divide an orange into zero parts? This is a very interesting but tricky question. I had answered this question here: [David Kathuri's answer to What is the answer, if we divide zero by zero?](#)

# 51

If two quantities have different dimensions, is it possible to multiply and or divide them? Can we add and or subtract them for O level?

---

Link: <https://qr.ae/pN01w9>

**Answered November 19, 2020**

Think about this question – can you add 1meter to  $1m^2$  &  $1m^3$ ? That is:  $1m+1m^2+1m^3=?$

I'll refer to Length, area and volume: adding - Dimensional analysis - Intermediate & Higher tier - WJEC - GCSE Maths Numeracy (WJEC) Revision - BBC Bitesize

*"Think about this question – can you add a length to an area?*

*Hopefully you have come to the conclusion that this is in fact impossible. The reason for this is that length and area have different units, and quantities with different units cannot be added together.*

*This also explains why we cannot add a time to a weight or why we cannot simplify  $3a + 2b$ , as the answer would be nonsense!*

*One final consideration is that we cannot add or subtract dimensionless quantities (normal numbers such as 5, 12.8 and 34) to a quantity with dimensions.*

*While quantities with different units cannot be added – they can often be multiplied."* (End of ref.)

So here are some of the simplest possible scenarios for your question:

$$m+m^2+m^3=?$$

$$m-m^2-m^3=?$$

$$m\times m^2\times m^3=?$$

$$m\div m^2 ; m^2\div m^3=? \text{ and so on}$$

You get answers depending on your solution method i.e. how you define or explain your solution.

# 52

Who stated that zero divided by any number equals zero?

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Link: <https://qr.ae/pN01Mh>

**Answered November 4, 2020**

I would give it to Brāhmasphuṭasiddhānta. An Indian. Before his time, it was thought that zero cannot be a number. Numbers began at 'greater than zero'  $>0$ .

This reference is from [\(Division by zero - Wikipedia\)](#)

*EARLY ATTEMPTS:*

*The Brāhmasphuṭasiddhānta of Brahmagupta (c. 598–668) is the earliest text to treat zero as a number in its own right and to define operations involving zero.*

*The author could not explain division by zero in his texts: his definition can be easily proven to lead to algebraic absurdities. According to Brahmagupta,*

*"A positive or negative number when divided by zero is a fraction with the zero as denominator. Zero divided by a negative or positive number is either zero or is expressed as a fraction with zero as numerator and the finite quantity as denominator. Zero divided by zero is zero."*

*In 830, Mahāvīra unsuccessfully tried to correct Brahmagupta's mistake in his book in Ganita Sara Samgraha: "A number remains unchanged when divided by zero." (Division by zero - Wikipedia)*

# 53

What would happen if I try to divide by zero in my head?

---

Link: <https://qr.ae/pN01k8>

**Answered November 4, 2020**

Your question is very interesting because it depends on who you ask:

If you ask a mathematician or scientists, you'll get an accurate but not a reasonable answer. He would reply, "all calculations are done 'inside my head' including division by zero. I then write them down as I desire, probably on a piece of paper. Without my head I wouldn't calculate simple mathematics like  $1+1$ ."

But if you ask a psychiatrist, you'll get a realistic answer. He would reply, "the answer is within you, and if it's not, it's somewhere out there waiting to be discovered."

If you ask a philosopher then you'll get a more reasonable but not an accurate answer. He would reply, "to get to the bottom of this, we would have to make some comparisons: What is the difference between 'dividing by zero in your head' and 'dividing the same outside of your head'? You could, without doubt, get only two results: Inside your head, I am not certain; but outside your head, a mad man."

To answer your question, the psychiatrist is right. The answer is solved via a discovery, just like other unknown mathematical problems. This is because you can't tell what would happen if what would happen is unknown.

See my page for more info on division by zero.

# 54

## What is the answer, if we divide zero by zero?

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Link: <https://qr.ae/pN01PY>

**Answered October 28, 2020**

Originally Answered: What can actually be divided by zero?

First of all, the question 'What can actually be divided by zero?' defers from the question "What is the result (or outcome) of division by zero?"

So to answer your question, nothing can be divided by zero in the same way nothing can be divided by one.

For example, if I divide an orange into zero parts, I will end up with the same orange. In the same breath, if I divide the orange into one part, I will end up with the same orange.

The real quagmire lies on the exact meaning of division, that is, 'what does it mean to divide?' rather than "what can actually be divided?"

'What does it mean to divide' refers to the laws or axioms of division. They are determined by the denominator in a fraction setting.

'What can actually be divided' refers to the application of the laws or axioms of division. They are determined by the numerator of a fraction.

I have my own tangible explanation of division by zero. Please visit my page for more info.

# 55

## Is $1/\infty$ equal to 0?

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Link: <https://qr.ae/pN01oz>

### **Answered May 29, 2020**

To answer this question we would first have to define the term infinity.

Infinity (often denoted by the symbol  $\infty$ ) represents something that is boundless or endless or else something that is larger than any real or natural number. (Wikipedia)

Let's assume the largest number in the universe is 10, which would mean 11 must be infinity, right?

No, because 11 is quantifiable. Well since 11 has failed our test, how about 12. That must surely be infinity since it's beyond quantifiability, right?

Well, a new term has emerged: 'quantifiability'. So let's check it out...

Quantifiability stems from the word quantity:

Quantity is a property that can exist as a multitude or magnitude, which illustrate discontinuity and continuity. (Wikipedia)

Hmm... discontinuity & continuity are the key words.

Does infinity has a beginning (= property of continuity)? No. How about an end (= property of discontinuity)? No, hence infinity is beyond quantifiability (like say: blue + red = purple),

It is also beyond continuity & discontinuity (like say: blue + red = colour) - Colour is not necessarily blue or red. It could be pink, yellow etc. hence it has lost its continuity (= blue + red) & discontinuity (= purple).

Hence: Continuity + Discontinuity = Number

But: Continuity + Discontinuity  $\neq$  Infinity

Therefore: Number  $\neq$  Infinity

Therefore infinity is best described as the state of a number that cannot continue (as a quantity) or discontinue (as a quantity).

So to answer your question: is  $1/\infty$  equal to 0?

My simple answer is infinity is not a number hence cannot be divided or divide.

P.S. If you wish to delve deeper into this, then studying my work is a must:

or read/download [Vacuum Calculations Burden of Proof](#).

# 56

What is  $339354939934/0$ ?

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Link: <https://qr.ae/pN01Ab>

**Answered May 28, 2020**

Thank you John for the interesting question. Please let me know why you chose this specific long number. Is there a specific reason or we could use the numeral '1' instead of '339354939934'?

That is: if 1 & 339354939934 are Positive numbers then  $1, 339354939934 = P$

Hence 1 or 339354939934 divided by zero =  $P/0$

# 57

If all numbers divided by themselves are 1, is  $0/0=1$ ? Why or why not?

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Link: <https://qr.ae/pN01rH>

**Answered March 17, 2020**

That's a very good question. First of all let's define a number: A number is a mathematical object used to count, measure, and label (Wikipedia). So the real question is: Is zero a mathematical object?

The simple answer is yes. But wait a minute; what's the difference between  $+0$  &  $-0$ ?

Now, that's the problem:

If I decide to solve your question via the sequence method then:

$$3/3 = 1,$$

$$2/2 = 1,$$

$$1/1 = 1,$$

Hence:

$$0/0 = 1$$

This sounds correct, right?

Not until you realize that this object (zero) is both positive and negative at the same time that is  $\pm 0$ .



In simple terms, if the above sequence would apply to both positive & negative numbers, then you would have "hit the jackpot":

$$-3/-3 \neq -1,$$

$$-2/-2 \neq -1,$$

$$-1/-1 \neq -1,$$

Hence:

$$-0/-0 \neq -1,$$

Therefore:

$$\pm 0/\pm 0 \neq \pm 1,$$

That is:  $0/0$  is not equal to negative one, hence cannot be equal to positive one (considering zero can either be positive or negative which is not the case for other numbers in the number line).

P.S. If you wish to delve deeper into this, then studying my work is a must: Mathematics of Division by Zero or read Vacuum Calculations Burden of Proof

Thank you.

# 58

What is the result of 9 divided by 0?

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Link: <https://qr.ae/pN01h5>

**Answered October 18, 2019**

Originally Answered: What is 9 divided by 0?

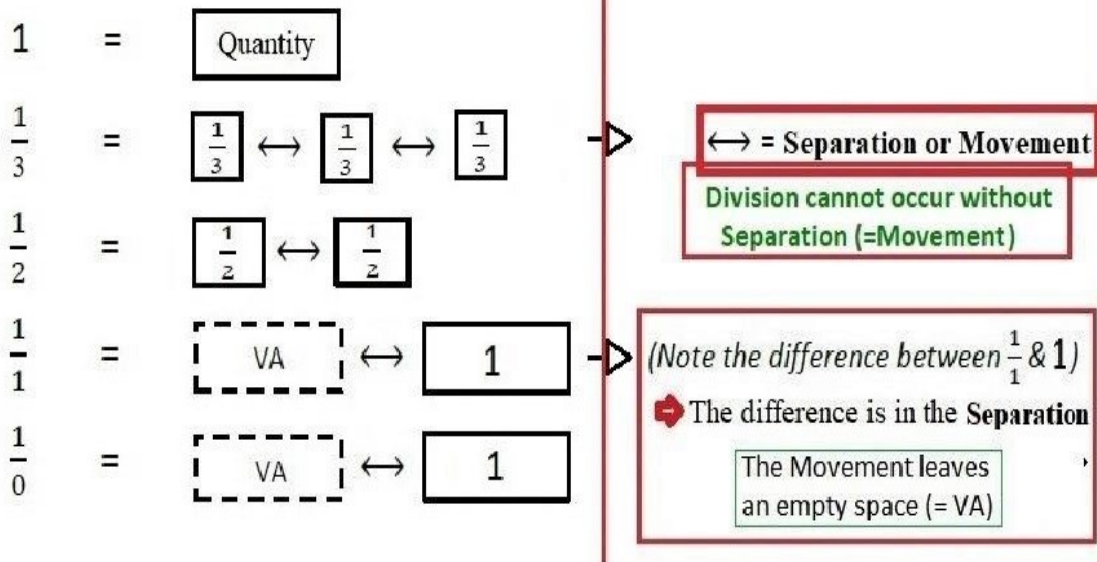
Vacuum, yes that's what I said. Vacuum can be perfectly be defined as a number i.e. Numbers (in Applied Mathematics) are nothing but signs that represent quantities e.g an apple & another apple can be defined as 2. Therefore since absence of the quantities is defined as Vacuum then it can be defined as a number forthwith. (<https://youtu.be/h1ySUhznPos>)

# DIVISION BY ZERO SOLUTION

("Vacuum Calculation Burden of Proof" PDF papers)

**Scientific Method Used:** A Sequence Mathematical Method from  $1/3$  to  $1/0$

Figure showing Division of a Quantity



The denominator determines the number of parts of the object.

Thus:  $\frac{1}{3}$  determines the 3 parts  
 $\frac{1}{2}$  determines the 2 parts  
 $\frac{1}{1}$  determines the 1 part

Hence:  $\frac{1}{0}$  determines the absence of quantity (= Vacuum) part or Past of quantity

Please share this with friends

## The Future and Past are Void

### a) Future:

If time is slowed and yours isn't, your time will be faster than other people's time; therefore your time will be in the future of other people's/matter's time.  
 If you move, you'll leave vacuum because it will take a longer time for air or any other matter to fill your space because its time has been slowed; hence the future is void.

### b) Past:

If time is stopped and yours isn't, the time of every matter, will be in the past because their time has been stopped.  
 If you move, you'll leave vacuum because no air or any other matter will fill your space because its time has been stopped; hence the past is void also.

## Proving that Past and Future are Vacuum

### i. Past:

When an object is moved from point A to B, point A becomes the past of point B because the object was (= past) in Point A and now (= present) is in point B; but point A is vacuum unless air or any other matter fills its space. This is because when the object moved from point A, an empty space (= vacuum) was formed (unless air or other matter fills this space).  
 (nb Time = Distance/Speed)

### ii. Future:

When one expects an object to move from point A to B, the object doesn't move to point B because it's just an expectation of the future; but if for some reason it moves to point B, the distance between point A to B becomes empty space (= vacuum) unless air or any other matter fills the space. Since any expectation of a latter time is the future, the distance between point A and B is the future at the lime the movement of the object was taking place.  
 (nb Time= Distance/Speed)

## REFERENCES

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- <https://www.quora.com/profile/David-Kathuri>
- <https://zenodo.org/record/4304933>
- <https://qr.ae/pNipvw>
- [Vacuum Calculations Burden of Proof](#)
- [https://en.wikipedia.org/wiki/Division\\_by\\_zero](https://en.wikipedia.org/wiki/Division_by_zero)