

Re: just 5 quick answers then I can summarise and GO

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This is treed as a reply to John but I am mostly addressing Herc.

The subject line is laughable.

The only quick answer to a stupid (and stupidly formed) question is "that's a stupid question". All substantive answers have to explain why the question is stupid, in terms that the asker --- DESPITE having been STUPID enough to ask the stupid question --- might still hope to understand, and finding THOSE terms can be both long and hard --- NOT quick.

> On Tue, 11 Jan 2005 03:12:08 +1000, "|-/erc" <h@r.c> wrote,
> >A)
> >SEQUENCE = <314159265.....>>
> >
> > <--- HOW MANY DIGITS???--->
>

John Savard wrote:

> *The decimal expansion of pi contains an infinite number of digits.*

That's not good enough. There are a great many DIFFERENT permutations of infinity. ONLY ONE of them --- the one where each element is only a finite distance away from each other element, the SMALLEST one --- is the RIGHT infinity here.

This is another example of how Herc's questions are just ungrammatical. "How many", as I explained before, normally wants an answer of type "cardinal", but the ACTUAL answer to the question Herc was TRYING to ask (but was simply too stupid to know how to ask correctly) is of type "ordinal", and it is the smallest limit/infinite ordinal. We usually call it (lower-case)omega and while that letter is from the Greek alphabet, the lower-case Roman letter it most resembles is w, so that's how we usually spell it here in ascii.

The correct answer to Herc's stupid question, which he, being stupid, does not even understand, is that there are w digits in pi.

sci.logic: Re: just 5 quick answers then I can summarise and GO

> >(B)
> >COMPUTABLES
> >1 <398498498.....>
> >2 <484849848.....>
> >3 <383873838.....>
> >..
> >
> >How many digits of (A) appear in correct sequence in (B),

None, of course. For an infinite string of digits, asking "how many of" it "appear in correct sequence" is just meaningless. Far worse, "appear in (B)" is even MORE meaningless because parts of (B) have subparts -- how far DOWN in the subpart-hierarchy is he asking that things appear? There's a whole lot of navigating and parsing that has to be added to all this to make it meaningful, and Herc is of course simply not up to it.

> >1 _____
>
> Pi is computable.

Right.

> But the infinite sequence in (A) *itself* is still
> not guaranteed to be a member of (B),

Still right,
but my point is, YOU ARE DEALING WITH HERC.
Your mission, whether you choose to accept it OR NOT, is to answer HERC's question. HERC DIDN'T ASK whether "the infinite sequence in (A) itself" was A MEMBER OF (B). He ASKED, "HOW MANY digits of (A)". It doesn't MATTER how right your answer is if it is not any sort of answer at all TO THE QUESTION HERC ACTUALLY ASKED. The relevant answer to < the question Herc actually asked > is that it is a stupid question. It is too malformed to even deal with. You will not be able to teach Herc anything about ordinals or cardinals until AFTER YOU TEACH HIM ENGLISH, or wean him from even TRYING to talk about this stuff in natural language and TEACH HIM FIRST-ORDER LOGIC.

GOODLUCK!

> >(A)
> >RANDOM SEQUENCE =
<654445676764545.....>
> > <--- HOW MANY DIGITS???--->

This random sequence, like the one for pi at the top, also has exactly w digits.

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> >
> >(B)
> >COMPUTABLES UTM(row, col) mod 10
> >1 <398498498.....>
> >2 <484849848.....>
> >3 <653873838.....>
> >..
> >
> >
> >How many digits of (A)

This is a meaningless concept.
Go learn some English or some logic and
then come back and say something that
actually means something.

> *appear in correct sequence*

What you MEAN by "how many digits of (A)
appear in correct sequence" is "what is the
length of the longest substring of (A)"
(or, maybe, "prefix of (A)").

> *in (B), guaranteed?*

"in (B)" is hopelessly meaningless because
(B) has structure. You have to say WHERE in (B),
in what subPARTS of (B).

If (B) is a list of ALL AND ONLY the "computable"
(i.e., recursively enumerable) length-w digit-strings,
then ANY FINITE NUMBER N
has the property that there is some natural number m(N)
such that the first N digits of (A) and the
first N digits of THE m(N)th MEMBER OF (B),
are the same string. But since Herc
thinks "any finite number" is meaningless,
He can't parse this either.
Nevertheless, for those of us who speak first-order logic,
AnEm[$A(1,n)=Bm(1,n)$]
is PERFECTLY meaningful.
And the An part of it REALLY DOES MEAN for
"any finite number", in an appropriate axiomatic
context.