## The Matrix Memorisation of Pi

A five digit number is randomly selected from the first 10,000 digits of Pi and called out. The record breaker states the five digits before and after, and then the next block is called out. This is repeated 50 times. The record is for the time taken to recall the event, with no errors.

## Rules

## Description: Layout of the numbers for the record

 The number consists of the first 10,000 decimals of Pi after the decimal point. EXAMPLE

14159 26535 89793 23846 etc.

The digits are printed in blocks of five digits, ten blocks in a line.
EXAMPLE
14159 26535 89793 23846 26433 83279 50288 41971 69399 37510
58209 74944...

3. The record is for the time taken to recall the event. It is worth bearing in mind that the number of 'collisions' (the same set of five digits occurring two or more times) rises very rapidly past 10,000. So that is the reason for keeping the number of digits at 10,000.

### On the day of the record

- 4. Each judge is given sheets with the digits of Pi printed clearly on them.
- 5. A judge will call out a RANDOMLY chosen block of five digits.

**EXAMPLE** 

50288

The five digit blocks must be randomly taken from any page. The number must not follow on each other from each of the thousand groups. It must be chosen randomly.

**EXAMPLE** 

Group one – the 4000<sup>th</sup> digit area, Group two – 7000<sup>th</sup> area, Group three – 2000<sup>th</sup> area etc.

6. The record breaker then recalls the block of five digits before and the block after.

**EXAMPLE** 

83279 and 41971

It does not matter which block is recalled first HOWEVER the order must be clear. The default is that the first block is recalled first.

**EXAMPLE** 

Saying "83279 and 41971" is correct

Saying "41971 is the second block and 83279 is the first block" is also correct as the order is identified.

7. The record attempt consists of 50 blocks called out by the judges (and hence a total of 100 blocks recalled for a total of 500 recalled digits). NO ERRORS may be made in the recall. Here a clarification is needed:

The record breaker may correct themselves when recalling, but at the end of each recalled set of blocks the record breaker should say "Next" (meaning next block from the judges). At that point the answer cannot be changed. No hinting or prodding from judges should be allowed of course.

# EXAMPLE

Judge: "26535"

Record breaker: "14159 and 89763, no that is 89793. Next"

Judge: "Correct. 76397"

Record breaker: "55418 comes first then 92934, no 92933. Next"

Judge: "Correct. 73455" etc.

This just avoids failing to break a record because one says six when one means seven (it does happen when recalling 500 digits). This way a "verbal typo" can be corrected.

- 8. The judges can say "Correct" at the end of each correct set of blocks recalled when the digits are correct and the record breaker has said "Next", and hence committed themselves.
- 9. In the event that a block occurs multiple times (which happens occasionally) then all of the occurrences must be used by the record breaker. A list of all such repetitions should be given to the judges beforehand so that they can quickly check them all. It should be mentioned that this happens very infrequently and is an unlikely event when the blocks are chosen at random.

#### 10. Randomness:

Independent judges pick digits from a copy of the sheets. Each sheet is to have 2000 or 1000 digits, and be used equally often.

### **EXAMPLE**

With 10,000 decimals (2000 digits per page) there are 5 sheets and 50 attempts, so each sheet is to be used 10 times. Or, 10 sheets (1000 digits per page) and 50 attempts, so each sheet is used 5 times. This ensures that the record breaker has learnt all sheets equally well, and that the judges are not picking from only a few sheets.

11. **The record is for the time taken to complete the event.** The event is continuous. The clock does not stop.

# **Verification Rules**

- 1. The World Memory Sports Council must be informed before the attempt takes place.
- 2. The event must be filmed. The footage must be clearly visible and of good quality. The entire attempt must be filmed and the camera must be focused on the attempt at all times, and preferably be static. A loud start and finish signal must also be recognized on the footage.
- 3. World Memory Sports Council arbiters or three to five independent people of standing in the community must judge the event. Each judge must also sign a witness statement confirming the record.
- 4. The event must take place in a public place or in a venue open for public inspection.
- 5. The event is continuous. The clock does not stop.
- 6. Two experienced timekeepers must time the attempt with stopwatches accurate to 0.01 seconds e.g. 16:38.35min.
- 7. All the evidence must be sent to the World Memory Sports Council for verification.