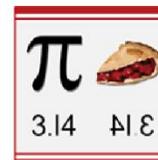


π *The Pi Day Challenge in Spanish*

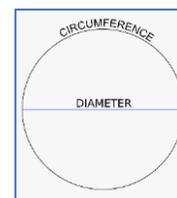
What is Pi? (pronounced like the English word “pie”). **Pi** is one of the most important numbers in mathematics. **Pi** is an infinite decimal—an irrational number. **Pi** appears over and over in nature, in math, and in human devices. It is a mysterious and elegant representation of a profound calculation. **Pi** is useful for all kinds of calculations involving the area of circles, the volume and surface area of spheres, and in figuring out the rotations of circular objects such as drills, wheels, planets, and galaxies. Without **Pi**, we would have a much harder time predicting the weather, tracking cargo ships, or even using digital maps. Humans have known about **Pi** for at least 4,000 years. The ancient Egyptians knew about it, and **Pi** is alluded to in the Bible in **1 Kings 7:23**, and in **2 Chronicles 4:2**, with the dimensions of the “molten sea” (a large, circular basin) in Solomon’s temple.



Coincidence?

The symbol for **Pi** is π , a Greek letter.

How is Pi calculated? Draw a circle, then draw a line straight across the circle (the **diameter**). If the line equals 1, then all the way around the circle (the **circumference**) is equal to 3.14159..., the number known as **Pi**. **Pi** is an irrational number: it starts with 3. And is followed by a decimal point and an endless number of digits in a certain order that never repeats, it just goes on and on and on... 105 trillion digits of **Pi** have been calculated so far using a super computer.



How many digits of Pi can you memorize in Spanish?

Is this practical? Helpful for vocabulary growth? Useful for fluency in any way? No, not really. But...

1) it is a fun challenge, and **2)** if you’re not sure of the numbers 0-9 yet, memorizing several digits of **Pi** can help. **3)** It is impressive when you can memorize several digits of this well-known number, especially in another language. **4)** It’s good memory practice—and your memory is like a muscle—you’ve got to use it to get it stronger, and **5)** It can give you confidence knowing that you can memorize something difficult and that confidence will spill over into other areas. **Those have got to be worth something!**

The world record for memorizing **Pi** is 70,000 digits, memorized by Rajveer Meena (age 21) from India.

The word “point” (as in decimal point) in Spanish is punto.

The contest. Challenge students to memorize at least 20 digits of **Pi** in *Spanish*. The contest is usually on **Pi Day: March 14 (3/14)**. Most adults don’t know more than three digits of **Pi** in English, so it will be impressive no matter how many a student gets. Students do not always stop at 20 digits. Memorizing 100 digits is not uncommon. This year, some students have asked if they could go above 100 digits, so here they are...

1-10 digits: 3.141592653

tres punto uno cuatro uno cinco nueve dos seis cinco tres

11-20: 5 8 9 7 9 3 2 3 8 4	21-30: 6 2 6 4 3 3 8 3 2 7	31-40: 9 5 0 2 8 8 4 1 9 7	41-50: 1 6 9 3 9 9 3 7 5 1
51-60: 0 5 8 2 0 9 7 4 9 4	61-70: 4 5 9 2 3 0 7 8 1 6	71-80: 4 0 6 2 8 6 2 0 8 9	81-90: 9 8 6 2 8 0 3 4 8 2
91-100: 5 3 4 2 1 1 7 0 6 7	101-110: 8 2 1 4 8 0 8 6 5 1	111-120: 3 2 8 2 3 0 6 6 4 7	121-130: 0 9 3 8 4 4 6 0 9 5
131-140: 5 0 5 8 2 2 3 1 7 2	141-150: 5 3 5 9 4 0 8 1 2 8	151-160: 4 8 1 1 1 7 4 5 0 2	161-170: 8 4 1 0 2 7 0 1 9 3

How is it possible to memorize so many random numbers? The same way you memorize anything:

• **CHUNKING:** Students that have memorized 50-100 digits of **Pi** say that “chunking” helps: **memorize chunks of numbers at a time**—anywhere between 3 and 7 numbers in the set, or a whole row of 10 digits. This works because your short-term memory can hold 3 to 7 items and with practice, up to 10. Some students say that focusing on 10 at a time works best. Focus on that set until it begins to creep into your long-term memory and then move on.

• **MARKERS:** Look for markers to help you remember where you are in the sequence helps too: **look for repeated numbers** to help you get your bearings and trigger the next set. For example, in the 21-30 digit set there are two 3’s in a row. In the 31-40 digit set there are two 8’s in a row. The 41-50 digit set has the pattern 93993, which some students say is easy for them to remember. The 61-70 set has 0-9 with no repetitions. The 91-100 set contains the numbers 0-7 with 1 and 7 repeated twice. The 151-160 set has the number 1 three times in a row.

- **PATTERNS:** There may also be other memorable **patterns** or number **combinations** that are meaningful to you (like birthdays, addresses, memorables years in history, etc.) that can help you remember.
- **CHANTS & MUSIC:** Chants and **sing-song patterns** can help too. Find a simple tune to sing the digits to or make up your own!
- **THIS BOOK:** For more on memory techniques like this to boost your memory see the book [Moonwalking with Einstein: The Art and Science of Remembering Everything](#), by Joshua Foer. I highly recommend it. His explanation of the "Memory Palace" has worked well for my students in memorizing other items like the poems, speeches and whole chapters of the Bible.

May I have a large container of coffee?

3. 1 4 1 5 9 2 6



$\pi = 3.1415926$

Area = πr^2
Circumference = πd

Pi Day (March 14) is popular in science and math classes and it can be fun in language classes too.

Students are challenged to memorize digits of *Pi* in the target language. 20 is a good goal. There will always be students that get 50 or even 100. Is this useful for communication? Not really. Impressive? Yes. Fun? Also yes. Then we eat pie.

Plus, almost zero class time (except eating pie).

BryceHedstrom.com 



Teachers: Think about coordinating Pi Day with World Language, Science and Math classes!

Here are some websites about Pi Day activities:

<https://www.jpl.nasa.gov/edu/news/2016/3/16/how-many-decimals-of-pi-do-we-really-need>

<https://www.weareteachers.com/pi-day-activities/>

<https://www.weareteachers.com/pi-day-activities/>



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@phranqueigh

Pi Day is just a fake holiday created by math companies to sell more math.



Fermat's Library

How many π digits do we need?

3.1415 ➡ design the finest engines

3.1415926535 ➡ obtain the circumference of the Earth within a fraction of an inch

3.1415926535897932384626433832795028842 ➡ measure the radius of the universe to an accuracy equal to the size of a hydrogen atom

