



Created by Hassan Lakiss

# $\pi$ to 1000 decimal places

3.1415926535 8979323846 2643383279 5028841971 6939937510  
5820974944 5923078164 0628620899 8628034825 3421170679  
8214808651 3282306647 0938446095 5058223172 5359408128  
4811174502 8410270193 8521105559 6446229489 5493038196  
4428810975 6659334461 2847564823 3786783165 2712019091  
4564856692 3460348610 4543266482 1339360726 0249141273  
7245870066 0631558817 4881520920 9628292540 9171536436  
7892590360 0113305305 4882046652 1384146951 9415116094  
3305727036 5759591953 0921861173 8193261179 3105118548  
0744623799 6274956735 1885752724 8912279381 8301194912  
9833673362 4406566430 8602139494 6395224737 1907021798  
6094370277 0539217176 2931767523 8467481846 7669405132  
0005681271 4526356082 7785771342 7577896091 7363717872  
1468440901 2249534301 4654958537 1050792279 6892589235  
4201995611 2129021960 8640344181 5981362977 4771309960  
5187072113 4999999837 2978049951 0597317328 1609631859  
5024459455 3469083026 4252230825 3344685035 2619311881  
7101000313 7838752886 5875332083 8142061717 7669147303  
5982534904 2875546873 1159562863 8823537875 9375195778  
1857780532 1712268066 1300192787 6611195909 2164201989

3	1	4	1	5	9	2	6
5	3	5	8	9	7	9	3
2	3	8	4	6	2	6	4
3	3	8	2	7	9	5	0
2	8	8	4	1	9	7	1
6	9	3	9	9	3	7	5
1	0	5	8	2	0	9	7
4	9	4	4	5	9	2	3
0	7	8	1	6	4	0	6
2	8	6	2	0	8	9	9

## ACTIVITY: "NUMBER SEARCH"

Work out each of the following and search for the answers on the number grid on page 3.

1.  $111 \times 8 = \underline{\hspace{2cm}}$

2.  $2013 - 42 = \underline{\hspace{2cm}}$

3.  $37 \times 3 = \underline{\hspace{2cm}}$

4.  $800 + 14 = \underline{\hspace{2cm}}$

5.  $541 \times 9 = \underline{\hspace{2cm}}$

6.  $27 \times 17 = \underline{\hspace{2cm}}$

7.  $103 \times 28 = \underline{\hspace{2cm}}$

8.  $36 \times 27 = \underline{\hspace{2cm}}$

9.  $55 \times 35 = \underline{\hspace{2cm}}$

10.  $59 \times 8 = \underline{\hspace{2cm}}$

11.  $211 \times 14 = \underline{\hspace{2cm}}$

12.  $278 \times 14 = \underline{\hspace{2cm}}$

Now make up some "sums" for others to find!

# $\pi$ to 10,000 decimal places

3.1415926535 8979323846 2643383279 5028841971 6939937510  
5820974944 5923078164 0628620899 8628034825 3421170679  
8214808651 3282306647 0938446095 5058223172 5359408128  
4811174502 8410270193 8521105559 6446229489 5493038196  
4428810975 6659334461 2847564823 3786783165 2712019091  
4564856692 3460348610 4543266482 1339360726 0249141273  
7245870066 0631558817 4881520920 9628292540 9171536436  
7892590360 0113305305 4882046652 1384146951 9415116094  
3305727036 5759591953 0921861173 8193261179 3105118548  
0744623799 6274956735 1885752724 8912279381 8301194912  
9833673362 4406566430 8602139494 6395224737 1907021798  
6094370277 0539217176 2931767523 8467481846 7669405132  
0005681271 4526356082 7785771342 7577896091 7363717872  
1468440901 2249534301 4654958537 1050792279 6892589235  
4201995611 2129021960 8640344181 5981362977 4771309960  
5187072113 4999999837 2978049951 0597317328 1609631859  
5024459455 3469083026 4252230825 3344685035 2619311881  
7101000313 7838752886 5875332083 8142061717 7669147303  
5982534904 2875546873 1159562863 8823537875 9375195778  
1857780532 1712268066 1300192787 6611195909 2164201989

3809525720 1065485863 2788659361 5338182796 8230301952  
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6782354781 6360093417 2164121992 4586315030 2861829745  
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8798531887 7058429725 9167781314 9699009019 2116971737  
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2283345085 0486082503 9302133219 7155184306 3545500766  
8282949304 1377655279 3975175461 3953984683 3936383047  
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2183564622 0134967151 8819097303 8119800497 3407239610  
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1965362132 3926406160 1363581559 0742202020 3187277605  
2772190055 6148425551 8792530343 5139844253 2234157623  
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9164219399 4907236234 6468441173 9403265918 4044378051  
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8788202734 2092222453 3985626476 6914905562 8425039127

5771028402 7998066365 8254889264 8802545661 0172967026  
6407655904 2909945681 5065265305 3718294127 0336931378  
5178609040 7086671149 6558343434 7693385781 7113864558  
7367812301 4587687126 6034891390 9562009939 3610310291  
6161528813 8437909904 2317473363 9480457593 1493140529  
7634757481 1935670911 0137751721 0080315590 2485309066  
9203767192 2033229094 3346768514 2214477379 3937517034  
4366199104 0337511173 5471918550 4644902636 5512816228  
8244625759 1633303910 7225383742 1821408835 0865739177  
1509682887 4782656995 9957449066 1758344137 5223970968  
3408005355 9849175417 3818839994 4697486762 6551658276  
5848358845 3142775687 9002909517 0283529716 3445621296



4043523117 6006651012 4120065975 5851276178 5838292041  
9748442360 8007193045 7618932349 2292796501 9875187212  
7267507981 2554709589 0455635792 1221033346 6974992356  
3025494780 2490114195 2123828153 0911407907 3860251522  
7429958180 7247162591 6685451333 1239480494 7079119153  
2673430282 4418604142 6363954800 0448002670 4962482017  
9289647669 7583183271 3142517029 6923488962 7668440323  
2609275249 6035799646 9256504936 8183609003 2380929345

9588970695 3653494060 3402166544 3755890045 6328822505  
4525564056 4482465151 8754711962 1844396582 5337543885  
6909411303 1509526179 3780029741 2076651479 3942590298  
9695946995 5657612186 5619673378 6236256125 2163208628  
6922210327 4889218654 3648022967 8070576561 5144632046  
9279068212 0738837781 4233562823 6089632080 6822246801  
2248261177 1858963814 0918390367 3672220888 3215137556  
0037279839 4004152970 0287830766 7094447456 0134556417  
2543709069 7939612257 1429894671 5435784687 8861444581  
2314593571 9849225284 7160504922 1242470141 2147805734  
5510500801 9086996033 0276347870 8108175450 1193071412  
2339086639 3833952942 5786905076 4310063835 1983438934  
1596131854 3475464955 6978103829 3097164651 4384070070  
7360411237 3599843452 2516105070 2705623526 6012764848  
3084076118 3013052793 2054274628 6540360367 4532865105  
7065874882 2569815793 6789766974 2205750596 8344086973  
5020141020 6723585020 0724522563 2651341055 9240190274  
2162484391 4035998953 5394590944 0704691209 1409387001  
2645600162 3742880210 9276457931 0657922955 2498872758  
4610126483 6999892256 9596881592 0560010165 5256375678

## SOME INTERESTING FACTS ABOUT $\pi$

The first 1000000 decimal places contain: 99959 Zeros, 99758 Ones, 100026 Twos, 100229 Threes, 100230 Fours, 100359 fives, 99548 Sixes, 99800 Sevens, 99985 Eights and 100106 Nines. There is one '3' before the decimal point...

The millionth digit after the decimal point is a '1' and the next two hundred figures after that are:

3092756283 2084531584 6520010277 9723561292 3012605863  
5360116492 0990258745 5521403969 7911534022 4158981324  
5057229232 3321310453 9246998366 1127509161 3418779722  
7187025774 4736124388 5140834659 3203124872 8192989830

There are no occurrences of the sequence 123456 in the first million digits but of the eight 12345s **three** are followed by another 5.

012345 occurs twice and they are **both** followed by another 5.

Can you find your **date of birth** in the values of  $\pi$ ? How many times does it appear?

Can you make other observations on the numbers in  $\pi$ ?

$$C = \pi D \quad \pi = \frac{C}{D} \quad \pi = \frac{A}{r^2} \quad A = \pi r^2$$

$$\pi \text{ radians} \equiv 180^\circ \quad 2\pi \equiv 360^\circ \quad \frac{\pi}{2} \equiv 90^\circ$$

## Some useful and fun links on $\pi$

**Please check them out first before showing to your class.**

<http://www.youtube.com/watch?v=mZ4CP0vTgEE> (Very good)

<http://www.youtube.com/watch?v=7zoqL2iOpvo>

<http://www.youtube.com/watch?v=-SUJDK1HOWg>

<http://www.youtube.com/watch?v=icrjzF3zl5A>

**(Happy Pi Day! \_Paradox.by.avi)**

[http://www.youtube.com/watch?v=D\\_Sk6Yob9S8](http://www.youtube.com/watch?v=D_Sk6Yob9S8)

[http://www.youtube.com/watch?v=\\_rJdkhlWZVQ](http://www.youtube.com/watch?v=_rJdkhlWZVQ)

<http://www.youtube.com/watch?v=6BbEdZFfJ9U>

<http://www.youtube.com/watch?v=fSPSp6KdFJg>

<http://www.youtube.com/watch?v=MhfXB5yIXgk> **(History of Pi Rap)**

<http://www.youtube.com/watch?v=L3R84Y6SgWg> **(Mathematical Pi Song)**

<http://www.youtube.com/watch?v=OMq9he-5HUU> **(Song from  $\pi$ !)**

<http://www.youtube.com/watch?v=NexeR0YQySw>

**(Mathematical Pi, Pi Day Project)**

[http://www.youtube.com/watch?v=wnSNbvH\\_kJ4](http://www.youtube.com/watch?v=wnSNbvH_kJ4) **(Mr Smith's Pi Rap)**

I hope you find this product useful and that you will use it to celebrate  **$\pi$  Day on March 14th.**

You may want to **lamine** some of the pages above and **display** them.

**You may also want to challenge students to recite  $\pi$  to 50 dp and offer a prize or some incentive!**

**You will be amazed at what they can achieve!**

Values of  $\pi$  are courtesy of:

<http://newton.ex.ac.uk/research/qsystems/collabs/pi/>

You can get  $\pi$  up to 1 million decimal places.