



How Many Digits Do We Really Need?

Read the passage and answer the questions. (CEFR B1–B2)

Class _____ No. _____ Name _____

1 In November 2025, a team announced that it had calculated pi to 314 trillion digits, a job that took a computer 110 days. Yet engineers at NASA's Jet Propulsion Laboratory use only 15 decimal places when they guide spacecraft across the solar system. According to JPL, even a circle the size of the observable universe would need fewer than 40 digits to be measured to the width of a single atom.



2 So why do people keep pushing the record? Part of the answer is practical: a long pi calculation is an extreme stress test for new hardware and software. Part of it is simply human curiosity, the same impulse that drives people to climb mountains or memorize tens of thousands of digits.

3 Pi Day itself raises a similar question. Critics say that eating pie and reciting digits teaches very little real mathematics, and that shops use the date mainly for discounts. Supporters reply that a silly holiday can change how students feel about a subject they often fear, and that feeling may matter more than any single fact. In Japan, where March 14 is better known as White Day, teachers face an extra challenge: math has to compete with sweets.

Comprehension

1. What is the main idea of the passage?

- (A) Computers will soon find the last digit of pi.
- (B) NASA needs more digits of pi to fly spacecraft.
- (C) Pi Day is more popular than White Day in Japan.
- (D) Both pi records and Pi Day raise the question of why we do things that seem to have little practical use.

2. How many decimal places of pi do engineers at NASA's Jet Propulsion Laboratory use to guide spacecraft?

- (A) 15
- (B) 40
- (C) 110
- (D) 314 trillion

3. According to the passage, what is one practical reason for calculating pi to many digits?

- (A) It helps NASA guide spacecraft more safely.
- (B) It helps students memorize pi.
- (C) It is a very hard test for new hardware and software.
- (D) It helps shops sell more pies.

4. What does the writer suggest by saying "math has to compete with sweets" in Japan?

- (A) Japanese students do not like math or sweets.
- (B) In Japan, White Day may get more attention than Pi Day on March 14.
- (C) Japanese teachers sell sweets in math class.
- (D) Pi Day was started by a Japanese candy company.

5. In paragraph 2, the word "impulse" in "the same impulse that drives people to climb mountains" is closest in meaning to

- (A) a strong wish to do something
- (B) a kind of computer
- (C) a mountain path
- (D) a rule made by scientists

6. Why does the writer mention a circle the size of the observable universe?

- (A) To show that the universe is shaped like a circle.
- (B) To explain how NASA measures atoms.
- (C) To show that very few digits of pi are needed even for huge real-world measurements.
- (D) To prove that the 2025 calculation was wrong.



Vocabulary, Paraphrase & Summary

Match the words with the definitions. Then rewrite and summarize.

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|------------------|---|
| 1. calculate | a. an amount of money taken off the usual price |
| 2. decimal place | b. to find a number or an amount by using math |
| 3. practical | c. the position of a digit after the decimal point |
| 4. extreme | d. useful in real life, not only in ideas |
| 5. curiosity | e. very great, much more than usual |
| 6. impulse | f. a strong wish to know or learn about something |
| 7. recite | g. a strong feeling that makes you want to do something |
| 8. discount | h. to say something aloud from memory |

Paraphrase — say it in your own words

1. “Yet engineers at NASA's Jet Propulsion Laboratory use only 15 decimal places when they guide spacecraft across the solar system.”

Hint: Start with "But even NASA" and use "needs only".

2. “Part of it is simply human curiosity, the same impulse that drives people to climb mountains or memorize tens of thousands of digits.”

Hint: Start with "People also do it because" and use "just like".

3. “Supporters reply that a silly holiday can change how students feel about a subject they often fear, and that feeling may matter more than any single fact.”

Hint: Start with "Other people say" and change "a subject they often fear" to "math".

Summary

Summarize the passage in about 50 words.



Debate & Opinion Essay

Prepare for a debate. Then write your opinion (100–150 words).

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Motion: Schools should celebrate Pi Day with games and pie.

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- A silly holiday can change how students feel about math, a subject many of them fear.
- Activities like measuring circles or reciting digits make students curious, and curiosity drives learning.
- March 14 is also the International Day of Mathematics, so it is a good chance to show that math is part of everyday life.

Add your own reason:

AGAINST 反対

- Eating pie and reciting digits teaches very little real mathematics.
- Shops use the date mainly for discounts, so the day can become more about sales than learning.
- In Japan, March 14 is better known as White Day, so class time may be better used for regular math lessons.

Add your own reason:

Opinion	<i>I believe / I think that ...</i>
Reason 1	<i>First, ... For example, ...</i>
Reason 2	<i>Second, ... In fact, ...</i>
Counter	<i>Some people say ... However, ...</i>
Conclusion	<i>In conclusion, ...</i>