

1 Answer questions (1) ~ (5).

(1) Choose the sentence that best represents the main idea of the following passage.

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注) *pygmy goats: a breed of goats that are very small

*bark: the skin of a tree

*fire-retardant: preventing the spread of fire

*mulch: fertilizer made from old grass, plants and wood

- a. Christmas trees should be recycled not thrown away.
- b. Decorations should be removed from Christmas trees before the trees are thrown away.
- c. Fire-retardant sprays are harmful to animals and plants.
- d. Nigerian pygmy goats are a popular breed for urban farms.

(2) Choose the sentence that best represents the main idea of the following passage.

If you hate getting your hair brushed, it's probably because it hurts so much when the bristles* hit a tangle*. That painful zing* travels faster than most any other type of pain. It zips* down a nerve fiber at some 160 kilometers (100 miles) an hour.

That finding was presented here, October 8, at the annual meeting of the Society for Neuroscience*. It shows a new way our bodies sense and respond to different sorts of hurt.

Pain can come from many mishaps*. Cuts, jabs, pinches, cramps*, bites, slaps — even stubbing your toe* in the dark. They all hurt, but each feels different.

Pain is our bodies' way of warning us when it's being harmed. So it's not surprising we have many different ways of sensing pain. "Because when it doesn't," says Gregory Dussor, "we don't live." A neuroscientist, he works at the University of Texas at Dallas and did not take part in the new study.

注) *bristles: the strong hard hairs on a brush

*tangle: a knot that is hard to untie

*zing: a sharp pain

*zips: travels very quickly

*Society for Neuroscience: a group of doctors who study the human brain

*mishaps: unlucky events

*cramps: painful muscles that are tight and cannot relax

*stubbing your toe: hitting your toe so that it is pushed back into your foot

- a. Hair brushing is the most painful experience a person can have.
- b. In the human body, pain travels at the same speed regardless of its source.
- c. Our bodies sense and respond to different types of pain in unique ways.
- d. Pain from brushing your hair travels at 100 kilometers per hour.

(3) Choose the sentence that makes the best summary for this passage.

The punctuality* of Japanese trains also results from rigorous* training and safety measures for railway personnel. Train conductors, drivers, and station staff are essential for the safe and efficient operation of railways. They undergo* extensive training to ensure that they can meet the demanding standards of punctuality and safety.

One unique practice employed by Japanese railway workers is “pointing and calling”, also known as *shisa kanko*. This industrial safety method involves associating physical movements and vocal calls with specific tasks to prevent errors. Studies have shown that pointing and calling can reduce workplace errors by up to 85 percent, demonstrating the commitment to precision and safety across all Japanese rail operations.

注) *punctuality: arriving, leaving and doing things on time

*rigorous: very thorough and detailed

*undergo: receive

- a. Japanese railway workers use unique practices to ensure safety and punctuality.
- b. Japanese trains are always on time because passengers follow the rules.
- c. Pointing and calling is a safety method used worldwide to prevent train accidents.
- d. Up to 85% of workplace errors in Japan are caused by pointing and calling.

(4) Choose the sentence that best represents the main idea of the following passage.

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注) *hermit crabs: ヤドカリ

*sea snails: 海に生息するカタツムリ

- a. Hermit crabs have been found in deep oceans and on high mountains.
- b. Hermit crabs have been found using plastic waste as protective shells.
- c. Hermit crabs have hard bodies and grow shells to protect themselves.
- d. Hermit crabs have the potential to solve the plastic pollution crisis.

(5) Choose the sentence that makes the best summary for this passage.

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注) *Aceh: a small island in Indonesia

*Sumatra: a large island in Indonesia

*Acehnese: people who live on the island Aceh

- a. Aceh is known for holding cultural festivals to promote tourism in Sumatra.
- b. The Saman dance is a symbol of unity and cultural pride for the people of Aceh.
- c. The Saman dance is performed daily by Acehnese men.
- d. The Saman dance of Indonesia is no longer popular in Sumatra.

[出典]

- (1) “Goats can eat your Christmas tree - level 2”, January 2, 2025, News in Levels, <https://www.newslevels.com/products/goats-can-eat-your-christmas-tree-level-2/>
- (2) “Ouch! The pain of pulled hair registers superfast” , Laura Sanders, January 10, 2025, ScienceNewsExplores, <https://www.snexplores.org/article/hair-pull-pain-super-fast>, Source: Laura Sanders, Science News Explores, January 10, 2025.Used with permission. 一部略
- (3) “Why Do Japanese Trains Always Arrive On Time?”, Shreya Sethi, November 18, 2024, ScienceABC, <https://www.scienceabc.com/humans/why-do-japanese-trains-always-arrive-on-time.html>
- (4) “Creative Crabs”, Shay Maunz, April 4, 2024, TIME for KIDS, <https://www.timeforkids.com/g56/creative-crabs-g5/?rl=en-900/>, 一部略
- (5) “Ten thousand men dance – level 3”, December 30, 2024, News in Levels, <https://www.newslevels.com/products/ten-thousand-men-dance-level-3/>

2 Read the following article and answer questions (1) ~ (5).

- [1] Maybe you've heard of the TV show The Great British Bake Off. Its contestants take part in baking challenges in hopes of being named champion. But have you heard of The Big Internet Math-Off? At its end, one person is crowned the "world's most interesting mathematician." Meet Angela Tabiri: She became its 2024 champion.
- [2] To win, this celebrated mathematician from Ghana, Africa, had to find a way to make math fun for everyone.
- [3] Sixteen mathematicians were challenged to present something cool about math in a way that grabs people's interest. In each round, the public voted for who they felt best achieved that.
- [4] Tabiri secured the popular vote by doing what she always does: relate math to everyday concepts and problems.
- [5] Windows in a house, for instance, can show why angles and geometry* are important. Install your window at a slant*, she showed, and you risk rain coming in your house. To explain pi, Tabiri went hands-on. Using a string, she measured around and across several common round objects, such as bottle caps and jar lids. Though each circle had a different size, she showed that the ratio between the circumference* and diameter* stayed the same: pi.
- [6] Tabiri also used tricks she learned in college from theater. And in one case, she used dance to explain abstract ideas about her math research.
- [7] "Growing up," she says, she didn't think math "was something I could do professionally, even though I was good at [it]." Then an algebra* teacher saw her promise. He recommended she consider it for a career.
- [8] Tabiri got a master's degree in math at the African Institute of Mathematical Sciences (AIMS) in Ghana. Then she got a PhD in Europe. When Tabiri returned to Ghana, she joined AIMS. There, she works in quantum algebra*. It uses concepts in algebra to understand properties of geometric shapes in space.
- [9] Through the AIMS Girls in Mathematical Sciences Program, she also nurtures* high-school girls to use math.

[10] Since returning to Africa, Tabiri also wanted to use her enthusiasm to inspire more young people in math, especially girls. To pay it forward, she founded a non-profit called Femafricmaths. It highlights African female mathematicians and their career paths on YouTube.

[出典]

“Meet one of the ‘world’ s most interesting’ mathematicians” , Lakshmi Chandrasekaran, May 9, 2025, ScienceNewsExplores,
<https://www.snexplores.org/article/worlds-most-interesting-mathematician>, Source: Lakshmi Chandrasekaran, Science News Explores, May 9, 2025.Used with permission.

- 注) *geometry: math about the size and volume of shapes
 *slant: not straight up or straight across
 *circumference: distance around the outside of a circle
 *diameter: distance from one side of a circle to the other
 *algebra: math using symbols and letters
 *quantum algebra: 量子代数
 *nurtures: supports growth and learning

- (1) In which paragraph does the author mention the task that the participants in the Math-Off competition had to attempt?
- Paragraph 1
 - Paragraph 3
 - Paragraph 5
 - Paragraph 7
- (2) In which paragraph does the author explain how Tabiri uses everyday objects to teach math concepts?
- Paragraph 2
 - Paragraph 3
 - Paragraph 4
 - Paragraph 5
- (3) In which paragraph does the author describe Tabiri’s educational background?
- Paragraph 2
 - Paragraph 4
 - Paragraph 6
 - Paragraph 8

- (4) According to this passage, what inspired Tabiri to pursue a career in math?
- a. Encouragement from an algebra teacher
 - b. Her experience with dance and theater
 - c. Her time at the African Institute of Mathematical Sciences
 - d. Winning The Big Internet Math-Off
- (5) What is the main idea of this passage?
- a. Angela Tabiri's journey shows how math can be made engaging and accessible.
 - b. Math competitions can be intense and stressful for participants.
 - c. Math education in Ghana has grown significantly in recent years.
 - d. The Big Internet Math-Off is the most prestigious math contest in the world.

3 次の英文の要旨を、句読点も含め 100 字以内の日本語でまとめ、解答欄に書きなさい。

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[出典]

“Cultural expectations and leadership”, BRITISH COUNCIL,
<https://learnenglish.britishcouncil.org/skills/reading/b2-reading/cultural-expectations-leadership>

注)*Gabriela: ガブリエラ (人名)

*more hierarchical: having a clearer system of organization

*hierarchy: a system of organizing people into different ranks

*subordinates: workers who work under a boss or manager

- 4 Read the passage, and explain the main point in your own words. Write your answer in English within 30 words.

This final principle is central for both teacher well-being and learner well-being. Crucially, YOU* need to be engaged and enjoy your job in order to be able and willing to invest in engaging your learners with you and the learning opportunities you create. Research has shown how teacher and learner psychologies are in fact two sides of the same coin. Essentially, our physiological states and emotions are ‘contagious*’ for our learners. Quite simply, if teachers are engaged and passionate about their work and their languages, then learners are more likely to be too. Indeed, in respect to language learning motivation, Dörnyei and Ushioda contend that the teacher’s level of enthusiasm and commitment is one of the most important factors that can affect learners’ motivation to learn. Their conclusion coincides* with the bidirectional* nature of engagement stated above: ‘if a teacher is motivated to teach, there is a good chance that his or her students will be motivated to learn’.

[出典]

Sarah Mercer and Zoltán Dörnyei. *Engaging Language Learners in Contemporary Classrooms*. Cambridge University Press, 2020, P.59. 一部略

注) *YOU: この本を読んでいる読者のこと

*contagious: likely to spread, and affect others

*coincides: is the same or very similar

*bidirectional: moving in two different directions

5 Describe the picture below in English within 50 words.

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[出典]

“Tips & Tricks for Presenting Online”, March 24, 2020, Meeting Tomorrow,
<https://meetingtomorrow.com/blog/tips-tricks-for-presenting-online/>

6 Answer the following question in English. Write your answer within 50 words.

What motivates you to study? Explain with an example.