

英	語
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〔注意事項〕

1. 監督者の指示があるまでは、この問題冊子を開かないこと。
2. 解答用紙は、コンピュータで処理するので、折り曲げたり汚したりしないこと。
3. 解答用紙に、氏名・受験番号を記入し、受験番号をマークする。マークがない場合や誤って記入した場合の答案は無効となる。

受験番号のマーク例(13015の場合)

受 験 番 号				
1	3	0	1	5
万位	千位	百位	十位	一位
●	①	●	①	⑤
②	①	①	●	①
③	②	②	②	②
④	●	③	③	③
⑤	④	④	④	④
⑥	⑤	⑤	⑤	●
⑦	⑥	⑥	⑥	⑥
⑧	⑦	⑦	⑦	⑦
⑨	⑧	⑧	⑧	⑧
⑩	⑨	⑨	⑨	⑨

4. 解答用紙にマークするときは、HBまたはBの黒鉛筆を用いること。誤ってマークした場合には、消しゴムで丁寧に消し、消し^{ていねい}くずを完全に取り除いたうえで、新たにマークし直すこと。
5. 下記の例に従い、正しくマークすること。

(例えばcと答えたいとき)

正しいマーク例



誤ったマーク例

Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓘ	Ⓔ	マークが薄い マークが不完全 マークが○印 マークがV印
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓘ	Ⓔ	
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓘ	Ⓔ	
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓘ	Ⓔ	

6. 解答は、すべて解答用紙の所定の位置に記入すること。
7. 最後の問題Ⅴに自由英作文があるので、時間配分に注意すること。

I

次のインタビュー記事を読み、以下の設問に答えなさい。

Capt. Chesley “Sully” Sullenberger III is the pilot who landed US Airways Flight 1549 in the Hudson River after a flock of geese struck and disabled the plane’s engines. His quick thinking, years of training and courage on that fateful day in 2009 saved all 155 people on board. After retiring in 2010, he is now using his expertise to focus on the safety of a different set of people, patients.

Q: You and three co-authors wrote an article for The Journal of Patient Safety in March on “avoidable health-care harm,” making comparisons with the aviation^{註1} industry. Can you define the nature of the problem?

A: The nature of the problem is systemic, huge and immediate. As we know from the Institute of Medicine reports and others, medical errors and health-care-associated conditions lead to 200,000 preventable deaths per year in this country alone. That’s the equivalent of 20 large jet airliners crashing every week with no survivors.

If that were to happen in aviation, there would be a nationwide ground stop, a presidential commission, congressional hearings. The National Transportation Safety Board would investigate, search out root causes. No one would fly until we’d solved the fundamental issues.

I’m trying to bring to this discussion a sense of urgency. I can tell you from my own domain, commercial aviation, we have worked very hard over the last four or five decades to make [it]^{註2} ultimately an ultra-safe endeavor. In fact, the last passenger fatality^{註3} on a large U.S. jet airliner was in November 2001, over a decade ago. Now, the regionals are not quite yet at the same level of safety, but as far as the major, large jet airlines, we have achieved an amazing accomplishment: Literally millions of flights, tens of millions of passengers, without a single passenger fatality in over a decade.

Q: What were the cultural problems in aviation that had to be overcome to confront the problem of preventable errors?

A: Fifty years ago, airline accident investigations were much simpler and less thorough. They were done much less from a system point of view, and hardly at all from a human factors point of view. The easiest thing for investigators, for officials to do, was to blame the dead pilots, and leave it at that.

We finally got beyond that in aviation, and now we have, through the NTSB, a formal lessons-learned process, an independent federal agency that investigates transportation accidents. It comes up with probable causes, with contributing factors. It makes recommendations to the rule makers and to the industry about how to prevent this from happening again. A part of what we have done is to transform the culture of the aviation from (A) system to (B) system^{註4}.

Q: There were human elements to these preventable errors, right? How did aviation address that?

A: We've changed the dynamic of the interpersonal actions in the cockpit, and with the cockpit crew members and other team members.

Forty years ago, captains could be gods with a little "g" and Cowboys with a capital "C." They often ruled their cockpits by whim, according to individual idiosyncrasies^{註5} and preferences with insufficient consideration of best practices. In fact, the variability and the negative deviance was so great that the first officers with whom they flew, the co-pilots would often have to keep personal notebooks of the preferences of each captain. Woe to^{註6} the first officer or the flight attendant who didn't remember these idiosyncratic preferences. If someone spoke up to a captain about an unsafe practice, they put their job on the line.^(d)

Thankfully, those days are long gone. We've achieved much better standardization^{註7}. We've taught captains that they have to be creators

and leaders of teams, that we can no longer be a collection of individuals. What many don't realize about aviation is that at a large airline, you're flying with people all of the time that you've never met before.

It's important that we make introductions, that we learn each other's names, that we set the tone, we create an environment of psychological safety. Where there are no stupid questions, where we have an obligation ^(e) to speak up if we see something's not being addressed, where we create a shared sense of responsibility for the outcome. It's not about who's right, it's about what's right.

We in aviation have created this robust²⁸ safety structure on which we build. Paradoxically, it's this predictability, this reliability, this regularization of our processes that becomes the firm basis upon which we can then innovate²⁹ when we face the unexpected, when we face the (C).

That's exactly what we did, my crew and I, on Flight 1549, resulting in this Hudson River landing. It was something that we'd never trained for, it was something we had never envisioned, and we had 208 seconds to ^(f) solve this life-threatening problem that we had never seen before.

Q: How do you think we chart a path that leads to our drastically reducing the number of preventable medical deaths sooner rather than later?

A: I think we need to do what we did in aviation. We need to have the public awareness and the political will to act. I think we're building that. I think we are making a difference. I think there are many who are doing important things right now and have been for a number of years, but it's not in a systemic fashion. It's not in every hospital, in every city, in every state. We do have islands of excellence right now, but they are just that. They're islands of excellence in a sea of system failures. We need to make those islands bigger, and we need to have less water between them.

注 1 : aviation 航空

注 2 : []は元々のインタビューについていたものである。

注 3 : fatality 不慮の死

注 4 : このインタビュー箇所には文法的な誤りがあったため、修正したものを提示した。

注 5 : idiosyncrasy 特異性

注 6 : woe to ~に気の毒だ

注 7 : standardization 標準化

注 8 : robust 強健な

注 9 : innovate ~を刷新する

出典 : *News Center*. (2012). September 10, 2012. Retrieved from <http://med.stanford.edu/news.html>

問 1 英文の内容に合うように、(1)~(8)の質問に対する答えとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) What does the word systemic refer to?
(a)

1. affecting the entire system
2. affecting all body parts
3. loosely organized
4. disorganized

(2) What does the word regionals refer to?
(b)

1. local airlines
2. local people and communities
3. local hospitals
4. local area athletic competitions

- (3) What does the word whim refer to?
(c)
1. agreement
 2. harmony
 3. personal wish
 4. immediate threat
- (4) What does the phrase put their job on the line refer to?
(d)
1. complained to the labor union
 2. took their tasks seriously
 3. talked with their boss frankly
 4. risked becoming unemployed
- (5) What does the phrase set the tone refer to?
(e)
1. adjust the flight instruments
 2. provide direction
 3. create a destructive environment
 4. speak on and on
- (6) What does the word envisioned refer to?
(f)
1. imagined
 2. animated
 3. regretted
 4. prevented
- (7) According to the interview, what did Captain Sullenberger and his team NOT do to improve aviation safety?
1. They changed how they communicated with each other.
 2. They let workers know that they share responsibility.
 3. They asked leaders to check the system actively.
 4. They raised awareness of people on board and in general.

(8) What is the best title for this conversation?

1. Dealing with death in medical practices
2. Applying lessons of airline safety to health-care practices
3. Aiming to create a safety system in aviation
4. Reducing system failures through talking positively

問 2 英文の内容に合うように、(1)~(2)の空所を補うものとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) A part of what we have done is to transform the culture of the aviation from (A) system to (B) system.

- | | |
|---------------------------------|--------------------------|
| 1. A : a formal lessons-learned | B : an industry rule |
| 2. A : a top-down | B : a bottom-up |
| 3. A : a federal agency | B : an aviation industry |
| 4. A : a blame-based | B : a learning-based |

(2) Paradoxically, it's this predictability, this reliability, this regularization of our processes that becomes the firm basis upon which we can then innovate when we face the unexpected, when we face the (C).

1. passengers
2. crisis
3. monster
4. river

Ⅱ 次の英文を読み、下記の設問に答えなさい。①～⑤は段落番号を表す。

- ① The placebo effect remains one of the most baffling^{註1} mysteries in medicine. The idea that a useless sugar pill or harmless saline injection^{註2} could result in a measurable improvement in a patient's symptoms, sometimes as good as taking an active drug, has been so hard to explain that some have even doubted whether it can be real.

1

- ② The study, carried out by Marwan Baliki and Vania Apkarian at Northwestern University in Chicago, involved a small number of chronic-pain patients with osteoarthritis of the knee. It is a rare example of a placebo study based on real patients rather than healthy volunteers who are just exposed to pain-inducing experiments to see how they feel when given a placebo.

2

- ③ Baliki used an MRI scanner to observe in real time how the brain of patients responded to a placebo—in this case a sugar pill instead of a painkiller. In short, he found that an area within the mid-frontal gyrus lit up or, in his own words, “showed a higher functional connectivity” in patients who responded to the placebo, compared with non-responders.

3

- ④ He concluded that this brain region seemed to be quite separate from another region of the brain known to be involved in responding to the effects of real painkilling drugs. In other words, Baliki appeared to have found the “seat” of the placebo effect within the brain.

4

- ⑤ “In simple terms, we pinpointed a brain region, a hotspot or seat, that can predict the propensity of a patient's response to a placebo within the wider patient population suffering from chronic pain,” Baliki says. “We also examined the specificity of our results by testing whether this hotspot can

predict pain analgesia²³ to an active drug. We found that it does not, suggesting that this brain region is specific for placebo analgesia.”

- ⑥ The findings suggest a biological basis for the placebo effect and raise the prospect of tests to see if individuals are going to be good placebo responders or not. For those who are responders, it could mean targeting them with placebo pain treatments that might work specifically for them. Or it could result in identifying placebo responders so that they don't get included in clinical trials, which have long been thought to be compromised by them.

5

- ⑦ It is not, however, the first time that scientists have identified a brain region involved in the placebo effect. In 2007 for instance Jon-Kar Zubieta, now at the University of Utah, suggested that the nucleus accumbens, which lies at the top of the brain stem, plays a role in moderating pain after injections of a placebo composed of harmless saline solution — at least in healthy volunteers.

6

- ⑧ Other researchers, meanwhile, have focused on identifying the genetic basis of the placebo effect. This is based on the idea that certain signalling pathways in the brain, especially those involved in the “reward” network, help to mediate the placebo effect. The idea is that these signalling pathways are under genetic control and that some people may be blessed with certain combinations of genes that make them more or less responsive to a placebo effect.

7

- ⑨ “Our data suggests that harnessing placebo effects without deception²⁴ is possible in the context of a plausible rationale,” explained Claudia Carvalho of the ISPA-Instituto Universitario in Lisbon. She found that this kind of “open” placebo reduced initial pain and disability by about 30%.

- ⑩ Another study in 2011 on asthma patients found that placebo inhalers^{注5} had no effect on increasing lung function. But asthma patients nevertheless reported that they felt significantly better after using a “useless” inhaler — a baffling result to say the least.

8

- ⑪ But if this is difficult to explain, then what about the “noncebo”, the evil twin of the placebo, where a sugar pill actually makes people feel worse because they expect to suffer the side effects they have heard about? If the placebo effect has a genuine biological basis, with a seat in the brain and its own set of genes, then it’s plausible the same is true for the noncebo. If that is found to be the case, things could get really interesting.

注 1 : baffling 当惑させる

注 2 : saline injection 塩水の注射

注 3 : analgesia 痛覚の喪失

注 4 : deception だますこと

注 5 : inhaler 吸入器

出典 : Connor, S. (2016). *The Guardian*. November 6, 2016. Retrieved from <https://www.theguardian.com/science>

問 1 英文の内容に合うように、(1)~(3)の各文の空所を補うものとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

- (1) According to paragraph ①, placebo effects have _____.
1. been considered illusions by most doctors
 2. been hard to find by non-experts
 3. attracted few researchers
 4. sometimes worked as well as real medicine

(2) The word propensity in paragraph ⑤ is closest in meaning to _____.

- (a)
1. direction
 2. degree
 3. speed
 4. tendency

(3) The word harnessing in paragraph ⑨ is closest in meaning to _____.

- (b)
1. taking advantage of
 2. designing medicines against
 3. changing
 4. underlying

問 2 英文の内容に合うように、(1)~(5)の質問に対する答えとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) What do paragraphs ② to ⑥ imply?

1. It is common to use people suffering from diseases in examining placebo effects.
2. People can be classified according to how they respond to placebo effects.
3. The brain region related to the placebo effect is close to the one that responds to painkillers.
4. Placebo responders are necessary in testing new drugs in an experiment.

(2) What do paragraphs ⑦ and ⑧ imply?

1. Zubieta injected a placebo in actual patients.
2. Zubieta worked at the University of Utah in 2007.
3. The “reward” network is thought to be governed by genes.
4. The “reward” network is well known to researchers involved.

(3) Why is *useless* enclosed in quotation marks in the phrase a “useless” inhaler in paragraph ⑩?

1. Because the writer wanted to invite laughter to attract readers.
2. Because researchers presented a “useless” inhaler unintentionally.
3. Because presenting a “useless” inhaler in an experiment is usually unexpected.
4. Because the results suggested that the “useless” inhaler might actually be useful.

(4) What does paragraph ⑪ imply?

1. Noncebo effects should be examined together with placebo effects.
2. There is clear evidence that noncebo effects have a biological basis.
3. Placebo effects can interfere with noncebo effects mentally and physically.
4. Noncebo effects take place because sugar has side effects.

(5) What is the best title for this passage?

1. Can we exclude the placebo effect from experiments?
2. Is there something in the placebo effect after all?
3. How is the placebo effect related to mental states?
4. How can we get inner access to the placebo effect?

問 3 次の段落([A]と[B])は文中の ~ で示したいずれかの位置に入る。最も適した場所を選択肢 1 ~ 4 の中から選びなさい。

(1)[A] However, there is now evidence showing some people, known as “placebo responders”, do feel or get better after unwittingly^{注6}, or even wittingly, taking a placebo—and it’s not just psychosomatic^{注7}. Several studies are pointing to a biological basis for the placebo effect, with the latest research focused on a region of the brain known as the mid-frontal gyrus, which runs along the frontal lobes just above the eyes.

注 6 : unwittingly 無意識に

注 7 : psychosomatic 精神身体の

1.

2.

3.

4.

(2)[B] Certainly, the more that scientists investigate the placebo, the weirder the effect seems to be. One study earlier this year found that taking a placebo for chronic lower back pain can work effectively for some people even when they are told that the treatment is just a “powerful placebo”.

1.

2.

3.

4.

Ⅲ 次の英文を読み、下記の設問に答えなさい。①～⑤は段落番号を表す。

① Talking to yourself may seem a little shameful. If you've ever been overheard berating yourself for a foolish mistake or practicing a tricky speech ahead of time you'll have felt the social injunction^{注1} against communing with yourself in words. In the well-known saying, talking to yourself is the first sign of madness.

② But there's no need for embarrassment. Talking to ourselves, whether out loud or silently in our heads, is a valuable tool for thought. Far from being a sign of insanity, self-talk allows us to plan what we are going to do, manage our activities, regulate our emotions and even create a narrative of our experience.

③ Take a trip to any preschool and watch a small child playing with her toys. You are very likely to hear her talking to herself: offering herself directions and giving voice to her frustrations. Psychologists refer to this as private speech: language that is spoken out loud but directed at the self. We do a lot of it when we are young—perhaps one reason for our shyness about continuing with it as adults.

④ As children, according to the Russian psychologist Lev Vygotsky, we use private speech to regulate our actions in the same way that we use public speech to control the behavior of others. ("I'm hungry, can you bring me something to eat?" versus "I'm hungry, I should get myself something to eat.")

⑤ Imagine being able to tune in to the thoughts of the person next to you: in the office, on the bus, walking in the park. Much of what you would overhear would take the form of language. "Pick up some coffee." "Remember to phone the plumber." Many people say that they have a little voice up there, guiding them, helping them to think through problems and sometimes chastising^{注2} them for their mistakes.

⑥ Psychological experiments have shown that this so-called inner speech can improve our performance on tasks ranging from judging what other people are thinking to sorting images into categories. The distancing effect of our words can give us a valuable perspective on our actions. One recent study suggested that self-talk is most effective when we address ourselves in the second person: as “you” rather than “I.”

⑦ With new neuroscientific techniques, we can even explore what’s happening in the brain when inner speech is going on. Mental dialogues draw on^{‡3} some of the same neural systems that underpin the conversations we have out loud and might explain the more unusual experience of “hearing voices” (or auditory hallucinations). We know that inner speech comes in different forms and speaks in different tongues, that it has an accent and emotional tone, and that its special properties mean that it can unfold more quickly than speech said aloud.

5

⑧ While we internalize^{‡4} the private speech we use as children, we never entirely put away the out-loud version. If you want proof, turn on the sports channel. You’re bound to see an athlete or two gearing himself up with a tart phrase or scolding herself after a bad shot. Andy Murray attributed his 2012 U.S. Open victory to a pep talk^{‡5} he gave himself in front of a changing-room mirror. Gymnastics star Laurie Hernandez was caught on camera telling herself “I got this” before a key event in Rio. The athletes are doing it for good reason: Self-talk has been shown to bring benefits in sports as diverse as badminton, darts and wrestling.

6

⑨ Those of us who lack the talent of a Hernandez or a Murray are also likely to talk to ourselves aloud, particularly when the task is difficult and the conditions stressful. Researchers have observed high levels of private speech when adults are immersed in attention-demanding tasks like data entry — although, poignantly^{‡6}, many participants deny having talked to themselves when quizzed afterward.

7

- ⑩ Conducting a dialogue with ourselves — asking questions of the self and providing answers — seems to be a particularly good way of solving problems and working through ideas. The to-and-fro between different points of view means our thoughts can end up in expected places, just like a regular dialogue can, and might turn out to be one of the keys to human creativity.
- ⑪ Both kinds of self-talk — the silent and the vocal — seem to bring a range of benefits to our thinking. Those words to the self, spoken silently or aloud, are so much more than idle chatter. 8

注 1 : injunction 差止めの命令

注 2 : chastise ~を懲罰する

注 3 : draw on ~を利用する

注 4 : internalize ~を内在化する

注 5 : pep talk 激励の言葉

注 6 : poignantly 痛烈に

出典 : Fernyhough, C. (2016). *The Los Angeles Times*. December 31, 2016.

問 1 英文の内容に合うように、(1)~(3)の各文の空所を補うものとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) The word berating in paragraph ⑩ is closest in meaning to _____.

- (a)
1. scolding
 2. praising
 3. ignoring
 4. recognizing

(2) The word underpin in paragraph ⑪ is closest in meaning to _____.

- (b)
1. produce
 2. continue
 3. assist
 4. link

- (3) The word gearing himself up with a tart phrase in paragraph ⑧ is closest in meaning to (c).
1. encouraging himself by spending relaxing time
 2. encouraging himself with strict words
 3. making excuses to avoid being looked down on
 4. making excuses while repeating the same mistake

問 2 英文の内容に合うように、(1)~(5)の質問に対する答えとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

- (1) What paragraph mentions various types of inner speech?
1. paragraph ⑤
 2. paragraph ⑥
 3. paragraph ⑦
 4. paragraph ⑧
- (2) What does the word distancing mean in paragraph ⑥?
1. seeing your behavior objectively as a different person
 2. experiencing different time zones
 3. separating people far apart
 4. feeling lonely without close friends to talk to
- (3) Why does the author mention “Laurie Hernandez” in paragraph ⑧?
1. to provide a contrasting example with Andy Murray’s behavior
 2. to show a good example of talking to oneself behind the scenes
 3. to present an exceptional case of obtaining positive effects of self-talk
 4. to introduce a typical case of sports professionals who talk aloud on the field

(4) What do paragraphs ⑨ to ⑪ imply?

1. The more difficult tasks people tackle, the more likely they are to produce self-talk.
2. Self-talk has been proved by scientists to be related to creativity.
3. Inner speech and vocal self-talk each have different effects on performance.
4. Dialogues with oneself work better than working in a team.

(5) What is NOT stated in the passage?

1. why people are likely to self-talk consciously and unconsciously
2. why people feel embarrassed when caught in self-talk
3. how self-talk improves one's work and private life
4. how self-talk can be approved through experiments

問 3 次の文([A]と[B])は文中の ~ で示したいずれかの位置に入る。最も適した場所を選択肢 1 ~ 4 の中から選びなさい。

(1)[A] As we grow older, we don't abandon this system—we internalize^{注7} it.

注 7 : internalize ~を内在化する

- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1. | <input type="text" value="1"/> | 2. | <input type="text" value="2"/> |
| 3. | <input type="text" value="3"/> | 4. | <input type="text" value="4"/> |

(2)[B] That social pressure not to think out loud is very real.

- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1. | <input type="text" value="5"/> | 2. | <input type="text" value="6"/> |
| 3. | <input type="text" value="7"/> | 4. | <input type="text" value="8"/> |

IV 次の英文を読み、下記の設問に答えなさい。①～④は段落番号を表す。

- ① Death by chili pepper may not be a common way to die, but it's certainly a possibility for unlucky souls adventurous enough to try Dragon's Breath, the new hottest pepper in town.

1

- ② Mike Smith, the owner of Tom Smith's Plants in the United Kingdom, developed the record-breaking pepper with researchers at the University of Nottingham. He doesn't recommend the pepper for eating, however, because it may be the last thing a person ever tastes.

2

- ③ So how exactly do hot peppers, such as Dragon's Breath, maim or kill those who try to eat them? Let's start with the pepper's ^(a)spicy stats^{#1}: Dragon's Breath is so spicy, it clocks in at 2.48 million heat units on the Scoville scale, a measurement of concentration of capsaicin, the chemical that releases that spicy-heat sensation people feel when they bite into a chili pepper.

3

- ④ In comparison, the habanero pepper is downright mild at about 350,000 ^(b)Scoville heat units, as is the jalapeño pepper, which registers at up to 8,000 heat units, according to PepperScale, a site dedicated to hot peppers. Bell peppers have a recessive gene that stops the production of capsaicin, so they have zero heat units, PepperScale reported.

4

- ⑤ Dragon's Breath, in contrast, is so potent that it will be kept in a sealed container when it goes on display at the Chelsea Flower Show from May 23 to 27 in London, the Daily Post reported.

- ⑥ "I've tried it on the tip of my tongue, and it just burned and burned," Smith told the Daily Post. "I spat it out in about 10 seconds."

5

⑦ When a daredevil, such as Smith, eats an exceptionally spicy pepper, the first sensation is usually mouth numbness^{‡2}, according to Paul Bosland, professor of horticulture at New Mexico State University and director of the Chile Pepper Institute.

6

⑧ However, unusually hot peppers go beyond numbing the mouth. When these extreme examples are eaten, the body inflates liquid-filled “balloons,” or blisters, in areas exposed to the concentrated capsaicin, including the mouth and (if swallowed) the throat, Bosland said. These blisters can help absorb the capsaicin’s heat.

⑨ “The body is sensing a burn, and it’s sacrificing the top layer of cells to say, ‘OK, they’re going to die now to prevent letting the heat get farther into the body,’” Bosland said.

7

⑩ Some peppers, such as Dragon’s Breath, are so hot, that blistering alone would not contain the heat. Rather, their capsaicin permeates^{‡3} the blisters and continues to activate receptors^{‡4} on the nerve endings underneath them, which can lead to a painful burning sensation lasting at least 20 minutes, Bosland said.

⑪ In some cases, people vomit^{‡5} up the pepper, as did one 47-year-old man in California who ate a burger topped with ghost pepper puree, according to a 2016 case report in the Journal of Emergency Medicine. The man vomited so violently, he ruptured his esophagus^{‡6} and needed medical attention, Live Science reported.

8

⑫ The immune system can go into overdrive if the capsaicin is too concentrated. That’s because TRPV1 receptors — proteins on nerve endings that detect heat — are activated by capsaicin, and erroneously interpret capsaicin as a signal of extreme heat, Live Science reported previously. This

mistake can send the body's burn defenses through the roof.

- ⑬ In some cases, eating a hot pepper can lead to anaphylactic shock, severe burns and even the closing of a person's airways, which can be deadly if left untreated, according to the Post.
- ⑭ However, Smith didn't intend for Dragon's Breath to be part of a meal. Instead, he grew it so that it could be used as a topical numbing anesthetic for people who are allergic to regular anesthetic.

注 1 : stats 統計データ

注 2 : numbness 麻痺

注 3 : permeate ~を通り抜ける

注 4 : receptor 受容器

注 5 : vomit ~を吐く

注 6 : esophagus 食道

出典 : Geggel, L. (2017). *Live Science*. May 19, 2017. Retrieved from <https://www.livescience.com/>

問 1 英文の内容に合うように、(1)~(5)の各文の空所を補うものとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

- (1) The word maim in paragraph ③ is closest in meaning to _____.
- (a)
1. anger
 2. injure
 3. excite
 4. confuse

(2) The word downright in paragraph ④ is closest in meaning to _____.

- (b)
1. absolutely
 2. likely
 3. somewhat
 4. rarely

(3) The word contain in paragraph ⑩ is closest in meaning to _____.

- (c)
1. expose
 2. include
 3. increase
 4. control

(4) The word ruptured in paragraph ⑪ is closest in meaning to _____.

- (d)
1. scratched
 2. tore
 3. moved
 4. cleared

(5) The word erroneously in paragraph ⑫ is closest in meaning to _____.

- (e)
1. flexibly
 2. independently
 3. mistakenly
 4. interestingly

問 2 英文の内容に合うように、(1)~(3)の質問に対する答えとして最も適したものを、それぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) According to the article, how does the body respond to protect against extreme heat?

1. producing mouth water
2. turning red
3. making balloons
4. sweating

(2) What is the main idea in paragraphs ⑪ to ⑭?

1. how capsaicin is dangerous to the stomach
2. how spiciness and emotion go hand in hand
3. how peppers weaken the immune system
4. how the body responds to very strong peppers

(3) Why was this article mainly written?

1. to suggest medical treatment after taking peppers
2. to introduce Smith's new hot pepper
3. to discourage people from eating peppers
4. to educate people about how we sense heat

問 3 次の段落([A]と[B])は文中の ~
で示したいずれかの位置に入る。最も適した場所を選択肢 1 ~ 4 の中から選
びなさい。

(1)[A] Dragon's Breath is hotter than the current record-holder, the Carolina Reaper, which packs an average of 1.6 million Scoville heat units, as well as U.S. military pepper sprays, which hit about 2 million on the Scoville scale, according to the Daily Post.

- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1. | <input type="text" value="1"/> | 2. | <input type="text" value="2"/> |
| 3. | <input type="text" value="3"/> | 4. | <input type="text" value="4"/> |

(2)[B] “What’s happening is that your receptors in your mouth are sending a signal to your brain that there’s pain, and it’s in the form of hotness or heat, and so your brain produces endorphins to block that pain,” Bosland told Live Science previously.

- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1. | <input type="text" value="5"/> | 2. | <input type="text" value="6"/> |
| 3. | <input type="text" value="7"/> | 4. | <input type="text" value="8"/> |

V 自由英作文問題

下記テーマについて、英語で自分の考えを述べなさい。書体は活字体でも筆記体でもよいが、解答は所定の範囲内に収めなさい。

The writing will be evaluated from the viewpoint of both quantity and quality. The evaluation will also consider whether what you write responds to the question.

You are expected to write one complete essay (not separate answers to questions). Your essay should also include introduction, body, AND conclusion. Please write as if you are writing for someone who has not read the topic question.

The very first social media site was created in 1997. In 1999, the first blogging sites began to emerge. Today, there are many social media sites and apps available around the world. Supporters of social technology focus on its benefits. Opponents argue that it may be harmful. In your opinion, does social technology make us more alone or less alone? In what ways?

