

# 英 語

## 注 意

1. 問題は全部で17ページである。
2. 解答用紙に氏名・受験番号を忘れずに記入すること。(ただし、マーク・シートにはあらかじめ受験番号がプリントされている。)
3. 解答はすべて解答用紙に記入すること。
4. 問題冊子の余白等は適宜利用してよいが、どのページも切り離してはいけない。
5. 解答用紙は必ず提出のこと。この問題冊子は提出する必要はない。

### マーク・シート記入上の注意

1. 解答用紙(その1)はマーク・シートになっている。HBの黒鉛筆またはシャープペンシルを用いて記入すること。
2. 解答用紙にあらかじめプリントされた受験番号を確認すること。
3. 解答する記号・番号の○を塗りつぶしなさい。○で囲んだり×をつけたりしてはいけない。

解答記入例(解答が1のとき)

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4. 一度記入したマークを消す場合は、消しゴムでよく消すこと。×をつけても消したことになる。
5. 解答用紙をよごしたり、折り曲げたりしないこと。

**I**

次の英文を読み、設問に答えなさい。

Up until a few years ago, this was pretty much what we knew: Studying music as a child was thought to be essential to having perfect pitch<sup>(※注)</sup>, and growing up speaking a tonal language increased your odds of having perfect pitch. Scientists could not say with certainty whether perfect pitch was an innate talent, but they knew that if it was a gift, it was a gift that only appeared among those people who had received some training in pitch in childhood. Even the lucky few people who are born with a gift for perfect pitch would have to do something—in particular, some sort of musical training while young—to develop it.

We now know that this isn't the case. The true character of perfect pitch was revealed in 2014, thanks to a beautiful experiment carried out at the Ichionkai Music School in Tokyo and reported in the scientific journal *Psychology of Music*. The Japanese psychologist Ayako Sakakibara recruited twenty-four children between the ages of two and six and put them through a several-month training course designed to teach them to identify, simply by their sound, various chords played on the piano. The chords were all major chords with three notes, such as a C-major chord with middle C and the E and G notes immediately above middle C. The children were given four or five short training sessions per day, each lasting just a few minutes, and each child continued training until he or she could identify all fourteen of the target chords that Sakakibara had selected. Some of the children completed the training in less than a year, while others took as long as a year and a half. Then, once a child had learned to identify fourteen chords, Sakakibara tested that child to see if he or she could correctly name individual notes. After completing training, every one of the children in the study had developed perfect pitch and could identify individual notes played on the piano.

This is an astonishing result. While in normal circumstances only one in

every ten thousand people develops perfect pitch, every single one of Sakakibara's students did. The clear implication is that perfect pitch, far from being a gift bestowed upon only a lucky few, is an ability that pretty much anyone can develop with the right exposure and training. The study has completely rewritten our understanding of perfect pitch.

So what about Mozart's perfect pitch? A little investigation into his background gives us a pretty good idea of what happened. Wolfgang's father, Leopold Mozart, was a moderately talented violinist and composer who had never had the degree of success he desired, so he set out to turn his children into the sort of musicians he himself had always wanted to be. He began with Mozart's older sister, Maria Anna, who by the time she was eleven was described by contemporaries as playing the piano and harpsichord as well as professional adult musicians. The elder Mozart — who wrote the first training book for children's musical development — began working with Wolfgang at an even younger age than he had started with Maria Anna. By the time Wolfgang was four, his father was working with him full time — on the violin, the keyboard, and more. While we don't know exactly what exercises Mozart's father used to train his son, we do know that by the time Mozart was six or seven he had trained far more intensely and for far longer than the two dozen children who developed perfect pitch through Sakakibara's practice sessions. In retrospect, then, there should be nothing at all surprising about Mozart's development of perfect pitch.

So did the seven-year-old Wolfgang have a gift for perfect pitch? Yes and no. Was he born with some rare genetic endowment that allowed him to identify the precise pitch of a piano note or a whistling teakettle? Everything that scientists have learned about perfect pitch says no. Indeed, if Mozart had been raised in some other family without exposure to music — or without enough of the right sort of exposure — he would certainly have never developed that ability at all. Nonetheless, Mozart was indeed born with a gift,

and it was the same gift that the children in Sakakibara's study were born with. They were all endowed with a brain so flexible and adaptable that it could, with the right sort of training, develop a capability that seems quite magical to those of us who do not possess it.

In short, perfect pitch is not the gift, but, rather, *the ability to develop perfect pitch* is the gift — and, as nearly as we can tell, pretty much everyone is born with that gift. This is a wonderful and surprising fact. Here we are today, able to develop perfect pitch with a relatively simple training regimen.

For decades scientists believed that we were born with our brains' circuits pretty much fixed and that this circuitry determined our abilities. The general belief was that no amount of practice would help if you didn't have the right genes to start with.

But since the 1990s brain researchers have come to realize that the brain — even the adult brain — is far more adaptable than anyone ever imagined, and this gives us a tremendous amount of control over what our brains are able to do. In particular, the brain responds to the right sorts of triggers by rewiring itself in various ways. New connections are made between neurons, while existing connections can be strengthened or weakened, and in some parts of the brain it is even possible for new neurons to grow. This adaptability explains how the development of perfect pitch was possible in Sakakibara's subjects as well as in Mozart himself: their brains responded to the musical training by developing certain circuits that enabled perfect pitch. We know that such circuits are the product of the training, not of some inborn genetic programming.

Why are some people so amazingly good at what they do? Over my years of studying experts in various fields, I have found that they all develop their abilities in much the same way that Sakakibara's students did — through dedicated training that drives changes in the brain (and sometimes, depending on the ability, in the body) that make it possible for them to do things that

they otherwise could not. Yes, in some cases genetic endowment makes a difference, particularly in areas where height or other physical factors are important.

But the clear message from decades of research is that no matter what role innate genetic endowment may play in the achievements of “gifted” people, the main gift that these people have is the same one we all have — the adaptability of the human brain and body, which they have taken advantage of more than the rest of us.

If you talk to these extraordinary people, you find that they all understand this at one level or another. They may be unfamiliar with the concept of cognitive adaptability, but they seldom buy into the idea that they have reached the peak of their fields because they were the lucky winners of some genetic lottery. They know what is required to develop the extraordinary skills that they possess because they have experienced it firsthand.

One of my favorite testimonies on this topic came from Ray Allen, a ten-time All-Star in the National Basketball Association and the greatest three-point shooter in the history of that league. Some years back, ESPN columnist Jackie MacMullan, in talking with Allen, mentioned that another basketball commentator had said that Allen was born with a shooting touch — in other words, an innate gift for three-pointers. Allen did not agree.

“I’ve argued this with a lot of people in my life,” he told MacMullan. “When people say God blessed me with a beautiful jump shot, it really annoys me. I tell those people, ‘Don’t undermine the work I’ve put in every day.’ Not some days. Every day. Ask anyone who has been on a team with me who shoots the most. Go back to Seattle and Milwaukee, and ask them. The answer is me.” And, indeed, as MacMullan noted, if you talk to Allen’s high school basketball coach you will find that Allen’s jump shot was not noticeably better than his teammates’ jump shots back then; in fact, it was poor. But Allen took control, and over time, with hard work and dedication, he transformed his

jump shot into one so graceful and natural that people assumed he was born with it. He took advantage of his gift — his real gift.

(注) perfect pitch\* 絶対音感

問い I (1~10): 最もふさわしい答えを一つ選び、その番号をマークしなさい。

1. What can be concluded from Ayako Sakakibara's findings in 2014?
  - ① That anyone with the appropriate environment and practice can develop perfect pitch.
  - ② That students of piano are better at identifying chords than students of violin.
  - ③ That there is evidence to prove that perfect pitch runs in the family.
  - ④ That younger children develop perfect pitch more easily than older ones.
  
2. After completing Sakakibara's training, how did the abilities of the children change?
  - ① They were able to distinguish between major chords and minor chords.
  - ② They were able to play difficult pieces beautifully from memory.
  - ③ They were able to play scales without looking at the keyboard.
  - ④ They were able to tell which notes a pianist played.

3. What factor helped Mozart develop his perfect pitch early in his childhood?
- ① His desire to be better than his sister.
  - ② The fact that he ignored his father's wishes.
  - ③ The fact that he spent his childhood completely absorbed in music.
  - ④ The fact that his father punished him.
4. According to the text, which of the following do we now know is true about perfect pitch?
- ① It is a gift given only to a few lucky people.
  - ② It is a talent essential to becoming an outstanding musician.
  - ③ Once acquired, it lasts for months.
  - ④ Without the right practice, it may remain dormant and never develop.
5. Which of the following matches what is said in the text about the human brain?
- ① Given the appropriate stimuli, our brains can create new neural connections.
  - ② Our brains are so delicate that even the slightest stimulus may damage their neural networks.
  - ③ Scientists are still not sure whether or not perfect pitch has something to do with neural circuitry.
  - ④ The neural circuits in our brains hardly change after we reach puberty.

6. Which quality of our brain is most important for developing perfect pitch?

- ① adaptability
- ② awareness
- ③ resilience
- ④ sustainability

7. What does Ray Allen attribute his success to?

- ① A coach in his high-school days who told him to believe in himself.
- ② Amazing luck that favored him.
- ③ Generous sponsors who allowed him to focus solely on his play.
- ④ His diligence that drove him to be the best.

8. According to the author, what distinguishes extraordinarily talented people from everyone else?

- ① Financial support
- ② Genetic endowment
- ③ Self-assessment
- ④ Self-discipline



9. Which of the following best describes the main point of the text?
- ① An outstanding ability depends mainly on making the most of the immense potential found within our brains.
  - ② Favored by selection, we are all lucky enough to have been born with perfect pitch.
  - ③ Mozart shows us it is necessary to have an innate talent to achieve peak performance.
  - ④ Whether or not a child can be another Ray Allen simply depends on parental persuasion and treatment.
10. What would be the best title for this passage?
- ① How to Improve Your Genetics
  - ② Perfect Pitch and Natural Selection
  - ③ The Musical Legacy of Mozart
  - ④ The Secret to Extraordinary Talent

問いⅡ：下線部(A)を和訳しなさい。(別紙の解答用紙その2に記入しなさい。)

**II**

(11~20): 文中の下線部に最も意味の近いものを①~④から一つ選び、その番号をマークしなさい。

On a beautiful spring Sunday during cherry blossom season, the new president of Kyoto Seika University welcomed students for the start of the Japanese school year. "You have left your home," he told the 770 first-year and graduate students gathered in a gym on the hilly campus. "But this is also your home." And so Oussouby Sacko, 51, quickly dispensed with the elephant in the room: He is a black man in a homogeneous<sup>11</sup> country that has long had an ambivalent<sup>12</sup> relationship with outsiders.

Dr. Sacko, who is believed to be the first African-born president of a Japanese university, switched gracefully<sup>13</sup> into fluent Japanese. The university, Dr. Sacko said, was "diversifying<sup>14</sup> and internationalizing," and he wanted the students to "recognize your difference from others."

In this island country that is sometimes less than welcoming to immigrants, Mr. Sacko is an outlier. A resident for 27 years, he obtained Japanese citizenship 16 years ago and worked his way up through the ranks of a Japanese institution. With a declining population, Japan is being forced to confront<sup>15</sup> its traditional resistance<sup>16</sup> to taking in foreigners. Last year, according to government figures, the number of foreign nationals living in Japan hit a record high of more than 2.5 million, with about 15,140 of them from African countries.

Yet that total number of foreign nationals makes up less than 2 percent of Japan's population of 127 million, a lower proportion than in South Korea, for example, where foreigners make up about 3.4 percent of the population. The share<sup>17</sup> is much higher in the United States, at 14 percent, and it is close to 40





**III**

A(21~30): Read the following conversation that has words deleted in certain places. Choose the word or phrase ①~⑩ that best fills the numbered parentheses from the list below.

Isabella: If I remember correctly, you spent a good part of your ( 21 ) in Japan, right? I just found out that I qualified for an internship in the manga industry there this summer, and will be living with a family who has never hosted a foreigner before.

Emi: Exactly, I was born in the States, went back to Japan when I was three, and then only moved back here when I was ten. What a great opportunity! The Japanese are so ( 22 ), I'm sure you'll have nothing to worry about.

Isabella: That's easy for you to say. My Japanese is awful so in order to make up for it, I have been reading everything on Japan I can get my ( 23 ) on. Last night I actually finished a book on Japanese dining etiquette. Apparently, it can be quite tricky.

Emi: Undoubtedly, at first it can be a bit awkward if you're not aware of the many cultural differences, but it sounds like you may already know more than I do. Did your book ( 24 ) all the chopstick do's and don'ts?

Isabella: Yes, but they did seem rather confusing. If you wouldn't mind going through some of them with me I'd really ( 25 ) it. I also read that it's okay to lift some plates and bowls to your face when eating, but not others, whereas I would never do so over here.

Emi: As for the chopstick do's and don'ts, it's easier to explain the don'ts than the do's since many of them are due to Buddhist funeral ( 26 ) or are said to bring bad luck, and thus don't belong at the table.

Isabella: Yes, I remember reading something about that. It said "don't stick

your chopsticks into your bowl of rice when you're through." You're supposed to either lay them on a chopstick rest or ( 27 ) on your plate.

Emi: That's right. Did you also read not to use your own chopsticks to pass food to another person's chopsticks? You're supposed to ( 28 ) food by putting it right on the person's plate and to use chopsticks together as tongs.

Isabella: I guess that would be the case where being able to lift the plate close to my face would come in handy, if I thought I was going to drop the food. Speaking of which, is it true that it's okay to lift rice bowls, miso soup bowls, and small plates of soy sauce but not sashimi plates, those used by others or any other plate bigger than the ( 29 ) of your hand?

Emi: Yes, that seems to be the general rule of thumb, but I wouldn't lose any sleep over it. When in ( 30 ) just watch to see what others do. Besides, I'm sure your host family will simply respect you for having taken the time to learn these table manners in the first place.

Isabella: I hope so. I just don't want to overstay my welcome.

- |                |             |
|----------------|-------------|
| ① appreciate   | ② childhood |
| ③ cover        | ④ doubt     |
| ⑤ gracious     | ⑥ hands     |
| ⑦ horizontally | ⑧ rites     |
| ⑨ palm         | ⑩ transfer  |

**B(31~35):** Read the following conversation that has words deleted in certain places. Choose the word or phrase marked ①, ②, ③ or ④ that best fills the numbered parentheses from the choices below.

Mary: Hi Louis. I've not seen you for such a long time. I've been following you on Twitter though. You seem to be rather ( 31 ) these days.

Louis: Mary, if you think that, then you've really misinterpreted my posts. I feel exhausted and stressed out. You know I'm in the middle of job-hunting, right?

Mary: Yes, of course. Most of my friends are in the same position right now.

Louis: Well I have to spend a full day tomorrow at a company for their selection process. But that's just an ( 32 ) step and there are going to be further interviews later on.

Mary: Well the interviews at the opening stages are the easiest. You must be pretty good at introducing yourself by now.

Louis: Yes, but this thing is different. We have to do a group discussion. So instead of taking questions from somebody, the candidates try to solve some hypothetical problem by talking to each other and the people from the company just listen ( 33 ).

Mary: That sounds kind of challenging.

Louis: I've never done this kind of thing before. I have no idea ( 34 ) of me.

Mary: It's an interesting task to give you, as it runs against the usual logic. It's customary for the candidates to see each other as opponents.

Louis: I know what you mean. These group discussions force us to put aside our rivalries and ( 35 ).

31. ① carefree  
② done in  
③ under pressure  
④ worn out
32. ① ahead  
② eventual  
③ initial  
④ ultimate
33. ① about  
② in  
③ near  
④ to
34. ① what is expected  
② what should admit  
③ what should require  
④ what they admit
35. ① collaborate  
② compete  
③ condemn  
④ conquer









