

英 語

問題冊子 2

注 意

「問題冊子 2」に印刷されている問題は、**2** から **4** までで、2 ページから 15 ページまであります。

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次の対話の文章を読んで、あとの各問に答えなさい。

(* 印の付いている単語・語句には、本文のあとに〔注〕がある。)

Four high school students, Koki, Aya, Sakura, and Mark are in the classroom. Mark is an exchange student from America.

Koki: It's lunch time!

Aya: I woke up late and only had time to make an *onigiri*.

Sakura: You're going to be hungry.

Mark: Aya, do you want my chicken? Well, it's not actually chicken, though.

Aya: What do you mean?

Mark: It's made from *soy *protein. Maybe you have heard of soy meat, or plant-based meat.

Sakura: Oh, I've seen those kinds of products in convenience stores.

Koki: My favorite fast food restaurant started selling soy burgers a little while ago.

Aya: But I thought those products were for people who didn't eat meat.

Mark: Maybe ⁽¹⁾that was the case before, but now there are people who choose to eat meat *alternatives for various reasons, such as for their health, for the environment, to protect animals or as a solution to food problems.

Sakura: I didn't know meat alternatives had so many good points! I want to know more about them.

Koki: Hey, why don't we do our presentation for English class on meat alternatives?

Aya: Good idea!

Mark: Then let's get together after school tomorrow. Each of us can do some research and we can share what we found out.

The next day, the four students are in the classroom after school and they are talking about their presentation for English class.

Sakura: So who wants to start?

Mark: I'll go first. My family started eating meat alternatives about a year ago, after my parents saw a TV program on environmental problems.

Koki: How does eating meat alternatives affect the environment?

Mark: Did you know that farm animals, especially cows, have a very big influence on the environment? According to *the United Nations, they produce about 15% of the *greenhouse gases in the world. That means they produce more greenhouse gases than

all our cars, trains, and airplanes put together.

Koki: Really? That's a lot! We have to do something about that.

Mark: Scientists are working hard and they have thought of various ways, such as feeding cows with *seaweed. By doing so, methane, one of the greenhouse gases that cows produce, has decreased greatly.

Koki: I'm glad to hear that!

Mark: But the problem is not just about greenhouse gases. To grow animals, you need lots of water and lots of *land. Also, you need a large amount of water and ① food ② eat ③ land ④ they ⑤ the ⑥ grow ⑦ to ⑧ that. We are already using half of the world's *habitable land for farming. And we've destroyed so much of our forests.

Sakura: And the situation will get worse.

Koki: Why is that?

Sakura: It is said that the world's population will increase and that there will be 2 billion more people 30 years later. To provide meat for so many people, we need more land for farming. The size of land we need is about the size of Australia.

Koki: Where are we going to find so much land?

Mark: Exactly. So the United Nations has said that we need to eat less meat, instead of producing more. My parents felt that we needed to do something about it.

Koki: I don't think I can live without meat.

Mark: We thought so, too. Then, when we went to the supermarket, we found meat alternatives next to beef and chicken. We decided to give it a try and made every Wednesday "Meat Alternative Day." On other days, we ate animal meat.

Aya: That's a great idea!

Mark: Now we eat meat alternatives more often. It may not make a big difference, but we thought it was better than doing nothing.

Koki: Can I share what I found out?

Sakura: Sure.

Koki: I knew nothing about meat alternatives, so I gathered information to know what they actually are. You can *divide meat alternatives into two groups, plant-based meat and *cultivated meat.

Sakura: What's the difference?

Koki: Plant-based meat is meat made from plants, such as soy, *wheat, or *peas. Various *ingredients are often added to make it taste and look like real meat. The other type, cultivated meat, is protein grown from animal *cells.

Aya: Meat made from animal cells? Does it taste good?

Koki: Actually, I heard that it tastes like animal meat because it is made from animal cells. But you need a high level of technology to make this kind of meat. You also need a lot of money to make it, so it will take a few more years before we can buy it in Japan.

Mark: If it is hard to make it, we should just eat , right?

Koki: That's a good point. But there are people who want products that are similar to real meat. Also, you don't need to grow a lot of plants, like soy, to make the meat.

Sakura: So that means we can reduce the water and land we use!

Koki: That's right. It's also good because most of the soy we use in Japan is from other countries. We use a lot of energy when we bring in things from foreign countries.

Sakura: It may also increase Japan's *food self-sufficiency rate. If the technology for cultivated meat develops, we won't have to depend on other countries so much.

Koki: Maybe for that reason, Singapore became the first country in the world to allow . Over 90% of the food they eat comes from foreign countries.

Mark: It sounds like meat alternatives can be the solution to so many of our problems!

Aya: Exactly. Although there are so many good points to eating meat alternatives, Sakura and I didn't know very much about them.

Sakura: So, we wanted to know how common meat alternatives are in Japan. In a survey done last year, only 20% of people had the experience of eating them. It also showed that more than 60% of people knew about them, but never tried them.

Mark: Why was that?

Aya: Because many people thought that they wouldn't taste good.

Sakura: And also many people didn't know what they were made from. They thought plant-based meat products may not be healthy because you use various ingredients to make them.

Koki: But they are healthier than , right?

Aya: It is true that they are healthy, but you have to be careful because some of them can be high in *sodium or *lack vitamins that animal meat provides, like vitamin B₁₂.

Mark: My parents said that they always check the ingredients. In America, we had various plant-based meat products, so they chose the ones that were healthy.

Koki: Do many people eat meat alternatives in the U.S.?

Mark: According to a survey, 22% eat plant-based meat daily, and 20% eat it every week. People choose to buy it for health, for the environment, and just because they like the taste.

Sakura: That's very different from the situation in Japan.

Koki: Maybe it is related to the food that Japanese people eat. We eat meat, but we also eat fish.

Aya: Not only that. We have many other foods which include protein, such as *tofu* and *natto*.

Mark: Maybe Japanese people don't feel that they need an alternative for meat or protein because they already have various other things to eat.

Sakura: That may be true. But the food Japanese people eat is changing and we eat more meat than before. Also, the amount of meat people eat is increasing around the world. So I think we need to make a change.

Koki: You're right. I know I will continue to eat animal meat, but after knowing about ⁽⁴⁾ the facts we shared with each other, I will certainly eat meat alternatives too. Actually, I'm going to try the soy burger at my favorite fast food restaurant when I go there next time!

Sakura: I want to have a "Meat Alternative Day" at home like Mark. I will talk to my parents about it.

Aya: Choosing what we eat is important for our health, but maybe we also have to choose for the environment and for the future.

Mark: Eating meat alternatives is not the perfect solution, but I believe that small things add up to make a big difference. I hope people will think about the food they eat after ⁽⁵⁾ our presentation!

〔注〕 soy 大豆
alternative 代替品
greenhouse gas 温室効果ガス
land 土地
divide ~ into ... ~を…に分ける
wheat 小麦
ingredient 材料
food self-sufficiency rate 食料自給率
lack 不足している

protein たんぱく質
the United Nations 国際連合
seaweed 海藻
habitable 住むのに適した
cultivated meat 培養肉
pea エンドウ豆
cell 細胞
sodium ナトリウム

〔問1〕 (1) that was the case before の説明として、最も適切なものは次の中ではどれか。

- ア Some convenience stores started selling meat alternatives a little while ago.
- イ A fast food restaurant started selling meat alternatives a little while ago.
- ウ People who didn't eat meat chose meat alternatives a little while ago.
- エ All meat alternatives were made from soy protein a little while ago.

〔問2〕 (2) 【① food ② eat ③ land ④ they ⑤ the ⑥ grow ⑦ to ⑧ that】 とあるが、会話の流れに合うように、【 】内の単語を正しく並べかえたとき、①～⑧の中で1番目と3番目と5番目にくるものの組み合わせとして最も適切なものは、次のア～カの中ではどれか。

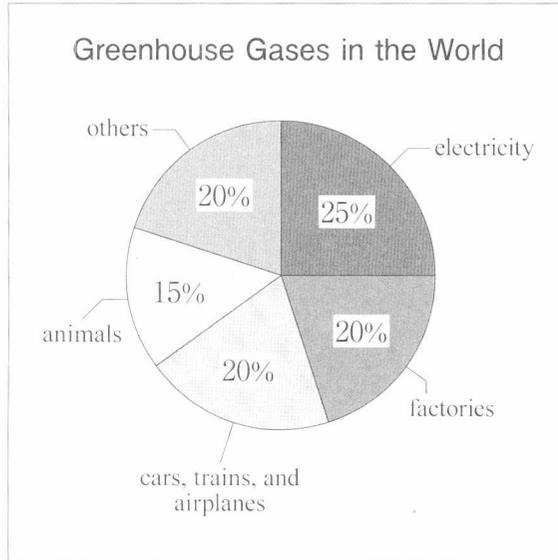
| | 1番目 | | 3番目 | | 5番目 |
|---|-----|---|-----|---|-----|
| ア | ③ | — | ④ | — | ⑦ |
| イ | ③ | — | ⑥ | — | ① |
| ウ | ⑤ | — | ④ | — | ⑧ |
| エ | ⑤ | — | ⑧ | — | ⑥ |
| オ | ⑦ | — | ⑤ | — | ④ |
| カ | ⑦ | — | ⑤ | — | ⑧ |

〔問3〕 会話の流れに合うように、本文中の空所 (3)-a ～ (3)-c の中に英語を入れるとき、最も適切な組み合わせは、次のア～カの中ではどれか。

| | (3)-a | (3)-b | (3)-c |
|---|------------------|------------------|------------------|
| ア | animal meat | plant-based meat | cultivated meat |
| イ | animal meat | cultivated meat | plant-based meat |
| ウ | plant-based meat | animal meat | cultivated meat |
| エ | plant-based meat | cultivated meat | animal meat |
| オ | cultivated meat | animal meat | plant-based meat |
| カ | cultivated meat | plant-based meat | animal meat |

[問4] (4) the facts とあるが、本文の内容と合っているものは、次のグラフの中ではどれか。

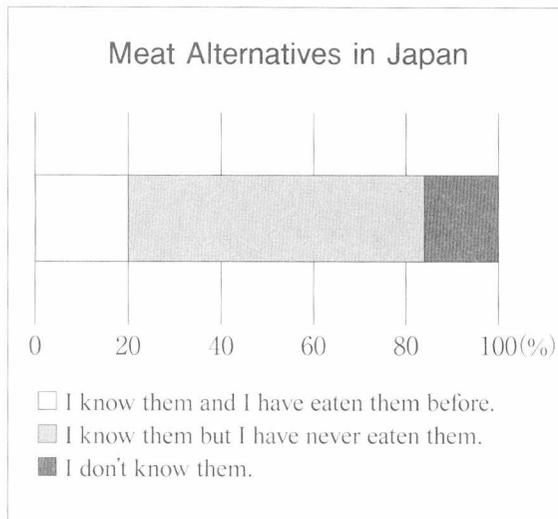
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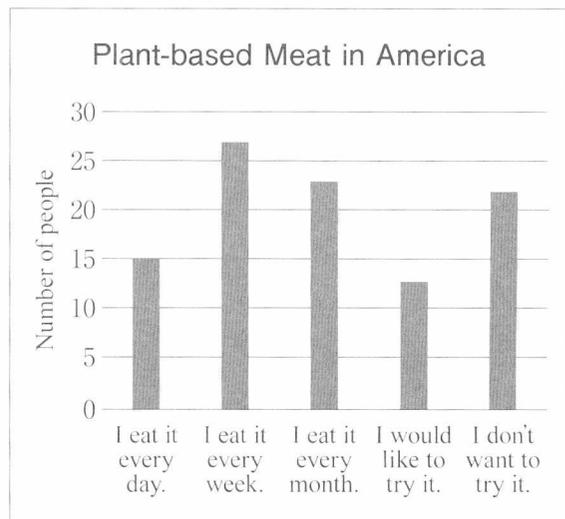
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ウ



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〔問5〕 (5) our presentation とあるが、次のスライドは Koki, Aya, Sakura, Mark が後日行ったプレゼンテーションの目次である。本文の内容を踏まえて、下のプレゼンテーションの原稿の空所 に 30 語以上の英語を自分で考えて書きなさい。

英文は二つ以上にしてもよい。なお、「,」「.」「!」「?」などは語数に含めないものとする。また、I'll のような「'」を使った語や e-mail のような「-」で結ばれた語はそれぞれ 1 語と扱うこととする。

スライド

1. What are meat alternatives?
 - (a) plant-based meat
 - (b) cultivated meat
2. Why is eating meat alternatives good?
 - (a) the environment
 - (b) food problems
 - (c) health
3. Final Message

原稿

Hi, I'm Aya. I'm going to explain why eating meat alternatives can be a solution to food problems. I will introduce one of the reasons.

Thank you. Next, Mark will explain another reason.

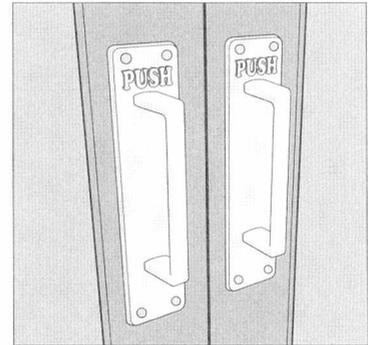
〔問6〕 本文の内容と合っているものを、次のア～クの中から二つ選びなさい。

- ア To prepare for the presentation, the students decided to bring and share meat alternatives that they found.
- イ If we feed cows with seaweed, they will not have a negative influence on the environment.
- ウ If the world's population increases, we will need to use half of the world's habitable land for farming.
- エ To make more meat, the United Nations is thinking of ways to reduce the amount of methane that cows produce.
- オ Singapore is similar to Japan because both countries depend on foreign countries for food.
- カ You have to be careful when you buy plant-based meat products because sometimes they don't have things you need for your health.
- キ Sakura is going to ask her parents to have "Meat Alternative Day" at Mark's house every week.
- ク Sakura feels that Japanese people have various ways to get protein, so we don't have to think about eating meat alternatives.

3 次の文章を読んで、あとの各問に答えなさい。

(*印の付いている単語・語句には、本文のあとに〔注〕がある。)

One day, I was in front of a door. I held the handle on the door and pulled it. The door wouldn't open. What's wrong with this door? I carefully looked at the handle on the door before me and I saw the word "PUSH" just above the handle. Really? The shape of the handle is telling me to hold and pull. Who would push a door with a handle of this shape? I had this experience a few years ago, and recently I met this handle again. This time, however, in a book on design.



According to the book, this kind of door is called a "Norman Door." A Norman Door sends the wrong message to the users because it is developed without thinking about the people who use it. As a result, the design of this door fails. On the other hand, a successful design can send messages that it *intends. After learning this, I started to think about the *intentions of designs in things around me.

There are many interesting designs all around you. Do you remember how the *hallway in your elementary school looked? Maybe the hallway had a line in the center of the floor. Why? The reason is very simple. If there is a line in the center, people walking in the same direction will walk on the same side, so people won't walk into each other. Because the line works as it is intended, this is a successful design. Let me share a different example of a hallway design. If everything in a building, from walls to floors, is in just one color, it's hard to understand where the floor ends or when you have to make a turn. However, ⁽¹⁾a small change in color can solve this problem. If you paint both sides of the hallway floor in a different color, you can easily understand the space around you. The difference is clear if you compare it with one painted all in one color. These examples tell you how design can be helpful in making your daily lives safer and simpler.

Design is not only about the way something looks. It is also about encouraging people to do things. In modern society, people often go for "comfortable" and "convenient," and that is not a bad thing itself. However, sometimes you should choose an action that is not the most comfortable for you. Here design can be very helpful. One such situation is in train stations. Passengers make long lines at escalators in stations, and getting out of the station takes a long time. This is a common problem in busy stations in big cities. If more people use the stairs, this

problem will be gone. ⁽²⁾ To find the way to encourage people to use stairs, an experiment was done in one station. Two *routes painted in two different colors were created on the stairs. Each color showed a different place to visit on weekends and passengers could choose between them. Passengers expressed their opinions by walking on the routes in different colors. During the one-week experiment, the station counted the number of people who walked on each route and showed the results in the station. Because of this, workers at the station had to clean up the stairs early in the morning. On average, 1,342 more passengers used the stairs in a day. People changed to using the stairs because climbing the stairs became a fun way to express themselves. In a similar experiment done in a different station, the *effect lasted for several weeks even after the experiment ended. This means that asking questions had the intended effect. In the end, (3) because it becomes natural for them to use the stairs.

Another is in a national park. How many of you will pay money to use a restroom in national parks? *Oze* National Park collects money to cover the costs of restrooms. Visitors are asked to put 100 yen into the box in front of the restrooms to use them. A few years ago, the amount the park actually collected was only 24 yen *per person. This meant three out of four users did not pay. To improve the situation, they tried a few things. First, they let users have “the fun of choosing.” Two collecting boxes, one with the picture of *Oze* in summer and the other in autumn, were put in front of the restrooms. Users could choose their favorite season by putting 100-yen coins. The average went up to 31.7 yen. Then the park put a poster of a little girl’s eyes, and it also ⁽⁴⁾ did the trick. The average amount increased to 34 yen per person. “Maybe people were worried about the eyes of other people, especially of children. They knew they should do their best to keep the park beautiful for children,” a worker in *Oze* said.

Both experiments in the station and the park used design to encourage good *behavior. However, are designs always friendly to us? On the train, you will find many design ideas that are used for a comfortable passenger experience. One of them is bars *separating seats into two or three parts. Because of the bars, passengers sit close to each other, so the largest number of passengers can sit. However, depending on the situation, they can be really *annoying for users. How do you feel when the bars are between you and your friend? Space for two adults is enough for a mother and her two little kids. But what will the mother do if the bar comes between two open seats? The mother will certainly let her kids sit and she will keep standing.

You can find a different example in benches in *public spaces. Some have *armrests in the middle so people cannot *lie on them, or sit in the middle and have them all to themselves. Others have *curved or very narrow seats, so people won’t stay there for long. Now you may easily find an open bench, but you can’t relax on it. From these examples, you can tell that both the bars on

trains and the armrests of benches have the same problem. Although

There is an interesting story from an airport. Passengers were angry about the long waiting time before they received their suitcases after their flight. To solve this situation, the airport moved the *baggage claim . You may think this is a bad way to solve the problem and that the passengers became more angry. Actually, they were happy about the new baggage claim! Why was that? The airport staff got more time to do their job, so by the time passengers arrived at the new baggage claim, their suitcases were ready for pick-up. Certainly, it seems good for both the airport and the passengers, but should the passengers really be happy about this? Because of this change, the *distance passengers needed to walk became .

You have learned what design is and what successful designs can do. Each design has its own intention behind it, and it is somehow trying to influence you. When a design doesn't work as it is intended, you will have difficulties. Sometimes, it may not be comfortable for you because a design could have a negative influence on you. Most of the time, however, design is intended to create a better environment for everyone, and it can be really helpful and useful. The world is full of designs. If you know how design influences you, that leads you to a better understanding of the things happening around you, and you can see the world in a new way.

〔注〕 intend 意図する

hallway 廊下

effect 効果

behavior 行動

annoying いらだたしい

armrest ひじ掛け

curved 湾曲した

distance 距離

intention 意図

route ルート

per ~ ~につき

separate 分ける

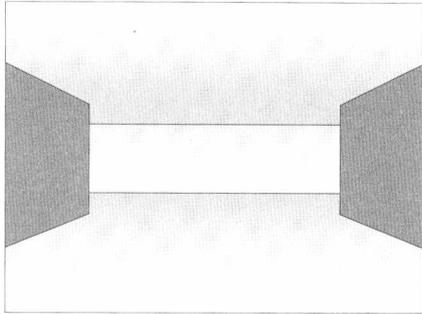
public 公共の

lie 横になる

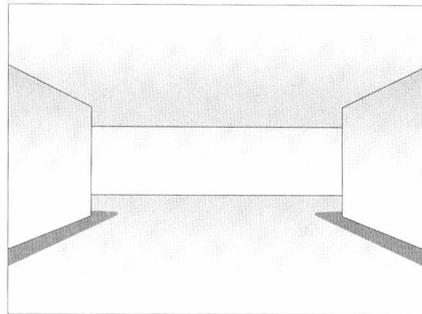
baggage claim 手荷物受取所

〔問 1〕 ⁽¹⁾ a small change in color を表す図として、最も適切なものは次の中ではどれか。

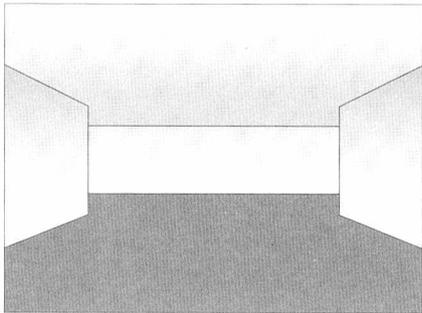
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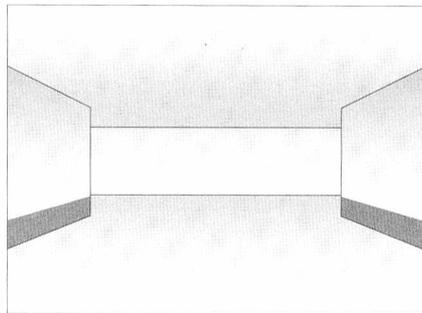
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〔問 2〕 ⁽²⁾ の中のまとまりをよくするために取り除いた方がよい文は、
下線部ア～オの中ではどれか。

〔問 3〕 空所 (3) に入るものとして、最も適切なものは次の中
ではどれか。

- ア people use the stairs only when they like the questions
- イ people get bored with answering questions
- ウ people don't have any more ideas for questions
- エ people take the stairs even without the questions

〔問 4〕 ⁽⁴⁾ did the trick の内容として、最も適切なものは次の中ではどれか。

- ア had the effect the park workers wanted
- イ performed magic to collect more money
- ウ saw a huge increase in the number of visitors
- エ watched how much each user put into the box

〔問5〕 文章の流れに合うように、本文中の空所 (5) に 15 語以上の英語を書きなさい。

英文は二つ以上にしてもよい。なお、「,」「.」「!」「?」などは語数に含めないものとする。また、I'll のような「'」を使った語や e-mail のような「-」で結ばれた語はそれぞれ 1 語と扱うこととする。

〔問6〕 文章の流れに合うように、本文中の空所 (6)-a と (6)-b に英語を入れるとき、最も適切な組み合わせは、次のア～エの中ではどれか。

| | (6)-a | (6)-b |
|---|----------|---------|
| ア | closer | longer |
| イ | closer | shorter |
| ウ | far away | longer |
| エ | far away | shorter |

〔問7〕 本文の内容と合っているものを、次のア～クの中から二つ選びなさい。

ア When the writer saw a Norman Door, she thought people would know how to open it.

イ You can think a design is successful when it can tell its users what it wants them to do.

ウ A line on the hallway floor is an example of a good design because people walk on the side they like.

エ Design is not useful when you want people to do things that are not comfortable for them.

オ Oze National Park tried the same system as the station but the amount of money they collected from users didn't increase.

カ Having bars separating seats on the train is always good for passengers because they let more passengers have a seat.

キ Because of the new designs, you can relax on the benches but it's difficult to find one that is open.

ク The writer thinks that if you understand the messages of designs, you will understand what is happening around you better.

- 4 Hibiya 中学校では、9月の文化祭で、すべてのクラスが演劇を行うことになっている。あなたのクラスが上演するのは資料1のどちらの案がよいか、資料1と資料2からそれぞれ根拠を挙げて、50語以上の英語で説明しなさい。

英文は二つ以上にしてもよい。なお、「,」「.」「!」「?」などは語数に含めないものとする。また、I'llのような「'」を使った語やe-mailのような「-」で結ばれた語はそれぞれ1語と扱うこととする。

資料1：Plans

| | A案 | B案 |
|--------|------------------|--------------|
| 演目 | ミュージカル (musical) | 劇 (play) |
| 内容 | 歴史上の出来事を題材とした悲劇 | 中学生が主人公のコメディ |
| キャストの数 | 15人 | 8人 |
| 台本 | 既成 | オリジナル |
| その他 | 様々な衣装が必要 | 大道具が多い |

資料2：Survey in Class

〔質問〕 あなたは文化祭で何を最も重視しますか？

