

# 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 **3** までで、2 ページから 15 ページまであります。

- 2 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。)

*Hiro, an exchange student from Japan, is now staying in New Zealand. He has lived in Alex's home since this June. He goes to school with Alex every day. Alex's mother, Hanna, usually drives them between home and school. Now they're talking in the car on their way home.*

*Hiro:* What a fine day today! Just the weather for driving.

*Alex:* I'd like to get a driving license \*as soon as my sixteenth birthday comes.

*Hiro:* Now in Japan, some people are worried about older people driving cars. Japan is \*aging quickly. It's a serious problem for all of us.

*Hanna:* I know. I read in the newspaper that it's a serious problem for Japanese car companies, too. But I hear some companies have produced \*self-driving cars controlled by \*advanced computer technology.

*Alex:* Self-driving cars? I want to drive myself. And a lot of taxi drivers may lose their jobs. That reminds me. The other day, in class, Ms. Brown said to us, "Computer technology will \*develop, and a lot of jobs will be lost."

*Hiro:* Yes. She also said, "So, you should think carefully about your job in the future." Some people are afraid of losing their jobs because of advanced technology.

*Hanna:*

*Hiro:* Yes.

*They come into the living room and find a young man lying on the sofa.*

*Hanna:* Oh, Brad! Welcome home. When did you get back?

*Brad:* Hi, Mom. I arrived before noon. Hi, Alex. How have you been?

*Alex:* Very good! Hiro, this is my brother, Brad. He works for an information technology company in the UK. Brad, this is Hiro. He's studying at my school as an exchange student from Japan.

*Brad:* Hi, Hiro. Nice to meet you. I have sometimes heard about you from Alex by email.

*Hiro:* Nice to meet you, too, Brad.

*Brad:* Are you enjoying your homestay?

*Hiro:* Yes, I'm really enjoying it. I must thank Hanna and Alex. They are very kind and help me a lot.

*Hanna:* Hiro, Brad is a computer programmer. He writes programs for \*autonomous robots. Hiro and Alex say that computer technology will develop and many jobs will be lost.

*Brad:* I believe that ways of working will change \*to some extent because of new technologies,

but the total \*amount of our work won't change so much because new types of jobs will be created. On the other hand, Japan has a \*labor shortage for dangerous or \*physically hard work, right?

Hiro:  That's a serious problem in Japan.

Alex: Autonomous robots can do dangerous or physically hard work easily and safely. They may solve the problem. That's a good thing.

Hiro: (2) I think so, too.

Hanna: If autonomous robots work for us in the future, we may have more free time. That's a good thing, too.

Brad: Now many jobs are created in information technology companies. I don't think you need to be afraid of losing many jobs because of advanced technology.

*Brad is starting up his computer to show them a chart of "What Do People Want Robots To Do?" on the screen.*

Brad: Look at (3) this chart. You can see what kinds of things people want robots to do in the future.

Hiro: This shows more than 80 percent of people want robots to be used for doing dangerous work. 77.8 percent want robots to be used to improve technology.

Alex: About the same percent of people also want robots to be used to support \*nursing care. I'm surprised that the fewest people want robots to be used to support \*medical care.

Hiro: I'm surprised, too. Like us, many people already have their own robots.

Hanna:

Hiro:

Brad:

Alex:

Brad:

Alex: Yes, of course.

Brad: Someday you won't have to do that.

Alex:

Brad: (5) When you get off the bus at the bus stop near your house, the computer network will get that information and will be able to [① home ② arrive ③ soon ④ tell ⑤ will ⑥ you ⑦ at ⑧ how ]. The network will decide \*by itself when to turn on your air conditioner. You won't need to control it.

Hiro: Do you mean that many more things will be connected to the Internet and work by themselves?

Brad: That's right. We computer programmers are looking forward to such a day. You're quick to understand.

*Hiro:* 1-d Actually, I'm very interested in computer technology.

*Alex:* Hiro really likes creating original games with his computer.

*Brad:* Wow! Great! You like computer programming? Hiro, maybe we can work together in the future to make robot technology better.

*Hiro:* Last year I created a game with my computer, but it was a very simple one. Now I'm interested in self-driving cars controlled by computer technology. My grandfather took me to many places by car when I was a small child. We always had a good time, but he'll be seventy soon. I'd like to produce self-driving cars for older people in the future.

*Brad:* I'm sure your dream will come true. I think one of the most important things about technology is \*safety. Some people say that because robots are machines, they can't be \*trusted. But, if autonomous robots are really safe, many people will want them.

*Hiro:* I understand you. I hope autonomous robots will be improved and make our lives better.

*Brad:* I do, too. I hope that, in the near future, autonomous robots will be used in many more ways.

*Hanna brings them some tea and cookies.*

*Hanna:* Now, would you like some tea and cookies? Alex and I made these cookies. It was easy. One of our robots told us the recipe.

*Alex:* It told us to use sugar, but we thought that honey would be better. So we decided to use honey. <sup>(6)</sup>We should have the final say. Am I wrong, Mom?

*Hanna:* 1-e I agree with you.

*Alex:* And now the other robot is cleaning the floor in the kitchen. Let's have some tea while it is cleaning.

〔注〕 as soon as ~ ~するとすぐに    aging <sup>こうれいか</sup> 高齢化している    self-driving 自動運転の  
 advanced 先進の    develop 発展する    autonomous 自律的な  
 to some extent ある程度まで    amount 量    labor shortage 労働力不足  
 physically 肉体的に    nursing care 介護    medical care <sup>いりょう</sup> 医療  
 by itself それ自身で    safety 安全性    trust 信頼する

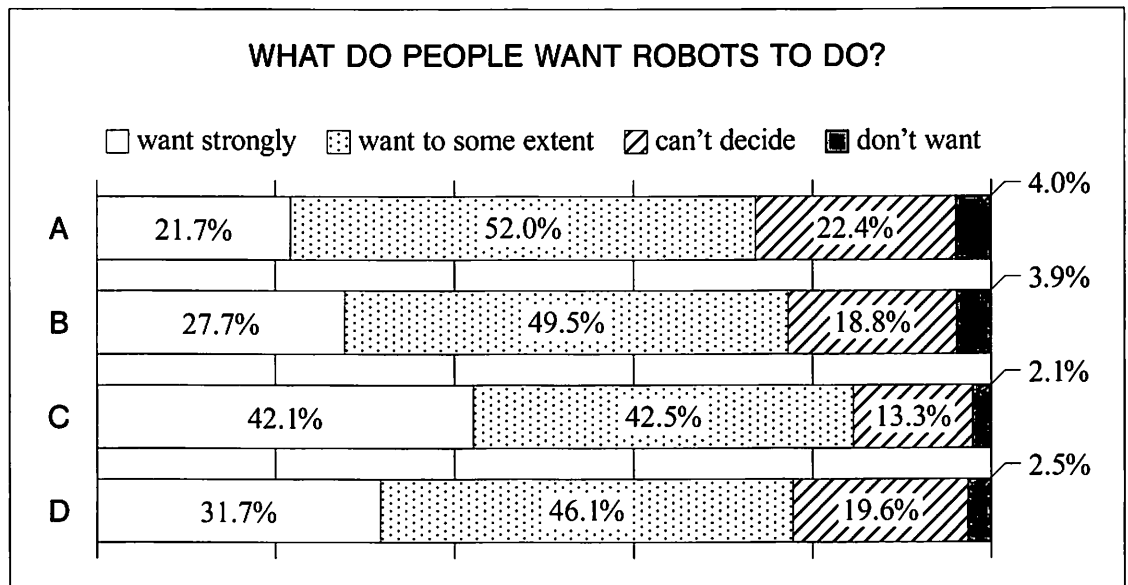
〔問1〕 1-a ~ 1-e の中に、それぞれ次のア~キのどれを入れるのがよいか。ただし、それぞれの選択肢は一度しか使えないものとする。

- ア What do you mean?      イ No, you are not.      ウ Me, neither.  
 エ Am I?                      オ What's the matter?      カ Yes, it does.  
 キ Are they?

〔問2〕 (2) I think so, too. とあるが、その内容を次のように書き表すとすれば、2-a ~ 2-c にどのような1語を入れるのがよいか。本文中に使われている語を用いて書け。

I 2-a with Alex. I think that it's good for 2-b to solve the problem of a labor shortage by doing dangerous or physically hard work. It's an 2-c job for them, and they can do it safely.

〔問3〕 Look at (3) this chart. とあるが、this chart は次のグラフを指している。本文の内容に合うように、A~Dに当てはまる項目をそれぞれ①~④から選び、その組み合わせとして最も適切なものは、次のページのア~カの中ではどれか。



「ロボットが家にやってきたら…」遠藤薫著 (岩波ジュニア新書) より作成

(小数第2位を四捨五入しているため合計は必ずしも100%にならない。)

- ① Robots for doing dangerous work      ② Robots for improving technology  
 ③ Robots for supporting nursing care      ④ Robots for supporting medical care

	A	B	C	D
ア	①	③	②	④
イ	①	④	③	②
ウ	②	③	①	④
エ	②	④	③	①
オ	④	①	③	②
カ	④	③	①	②

〔問4〕 本文の流れに合うように、4-a ~ 4-e の中にそれぞれ英文を入れるとき、その組み合わせとして最も適切なものは、下のア~カの中ではどれか。

- ① You are right. Most robots need to be improved. Computer programmers are trying to create the perfect IoT.
- ② But the cleaning robot can't clean stairs and the other robot can't answer some questions.
- ③ What's the IoT? I've never heard that word.
- ④ Right. We already have two robots working here at home. One is a robot for cleaning the floors, and the other answers our questions.
- ⑤ It means the Internet of Things. You turn on the air conditioner in the living room, right?

ア	① → ③ → ⑤ → ② → ④
イ	① → ③ → ⑤ → ④ → ②
ウ	① → ⑤ → ② → ④ → ③
エ	④ → ① → ③ → ⑤ → ②
オ	④ → ② → ① → ③ → ⑤
カ	④ → ② → ① → ⑤ → ③

〔問5〕 <sup>(5)</sup> When you get off the bus at the bus stop near your house, the computer network will get that information and will be able to 【① home ② arrive ③ soon ④ tell ⑤ will ⑥ you ⑦ at ⑧ how】. とあるが、本文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、次のページのア~カの中ではどれか。

	1 番目	3 番目	5 番目
ア	②	①	⑥
イ	②	④	⑦
ウ	②	⑤	⑧
エ	④	①	③
オ	④	③	⑤
カ	④	⑥	⑦

〔問 6〕 ⑥ We should have the final say. の内容を最もよく表しているものは、次の中ではどれか。

- ア In the end, humans should say more than robots say.
- イ In the end, humans should agree with robots' decisions.
- ウ In the end, humans should not follow robots.
- エ In the end, humans, not robots, should decide what to do.

〔問 7〕 本文の内容に合う英文の組み合わせとして最も適切なものは、下のア～シの中ではどれか。

- ① Though Hanna and Brad live in different countries now, they work for the same information technology company in the UK.
- ② Hiro and Alex are interested in cars, and they want to get driving licenses when they become sixteen.
- ③ Ms. Brown is worried about losing her job because computer technology develops, and she told her students to be careful about their future jobs.
- ④ Hanna and Alex are very kind and helpful to Hiro, and he is having a very good time in New Zealand.
- ⑤ Brad thinks new technologies will change ways of working and new jobs will be created.
- ⑥ Computer programmers hope many more things will be connected to the Internet and it won't be necessary for us to control them.
- ⑦ Hiro likes computer programming because he is very interested in computer technology, but he has never created an original game with his computer.
- ⑧ Hiro's grandfather wants Hiro to produce self-driving cars in the future because he will be seventy years old.

ア	① ③	イ	① ④	ウ	② ④	エ	④ ⑦
オ	⑤ ⑧	カ	② ③ ④	キ	② ④ ⑤	ク	③ ④ ⑥
ケ	③ ⑤ ⑧	コ	④ ⑤ ⑥	サ	③ ⑥ ⑦ ⑧	シ	④ ⑤ ⑥ ⑦

[問8] あなたは科学者で、人の役に立つロボットを発明しました。下の英文に続けて、そのロボットは何ができるのか、また、なぜそのロボットを作ったのかについて、**40語以上50語以内の英語**で書きなさい。ただし、Alexの家にあるロボットについては書かないこと。下の英文と「,」「.」「!」「?」などは語数に含めません。これらの符号は、解答用紙の下線部と下線部の間に書きなさい。

I have made a very useful robot.



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。)

Rome is a city with about 2,700 years of history. If you go there, you will be able to see a lot of \*ruins, such as those of roads, \*aqueducts, baths, and buildings. It is just like an open museum. They may remind you of the famous words, “Rome was not built in a day.” They have stood there for over two thousand years. About 2,000 years ago, Rome was the world’s largest city. In the second century \*A.D., more than a million people lived there. And there were no other cities in the West with more than a million people until the 19th century. Rome was first built in 753 \*B.C. For the next 500 years, it was just a city like many other cities in the West. But, later, it grew fast, and it became larger and larger. Rome had leaders. They worked hard to keep the peace in the city. And they tried to keep people in good health. The years from 27 B.C. to A.D. 180 are called the “Pax Romana.” That means the Roman Peace. Let’s see how people lived there and what made such a life possible.

The center of Rome was very crowded. Tall apartment houses were built there. You can still see ruins of them. They look like modern buildings. In some of the rooms, you can see the ruins of running water systems. There were seven hills in Rome.

1

They first grew \*grains, but later they also began to grow \*olives. They ate olives, and used olive oil for cooking, cleaning, and washing their bodies, and also for use in lamps. They brought food, like grains, from other places to support the many people living there. The Tiber River ran through the heart of Rome, just as it does now. There were a lot of boats coming up and down it. They brought such things as grains, salt, and vegetables into the city. The Tiber River was part of a big \*transport system. You may also know the famous words, “All roads lead to Rome.” A lot of roads were built, and they also were part of the transport system. The oldest and the most famous one was called the \*Appian Way. It was the first main road built by \*Appius Claudius, in 312 B.C. It was 540 kilometers long and connected the city of Rome to the south of Italy. It is still there, and you can walk on it.

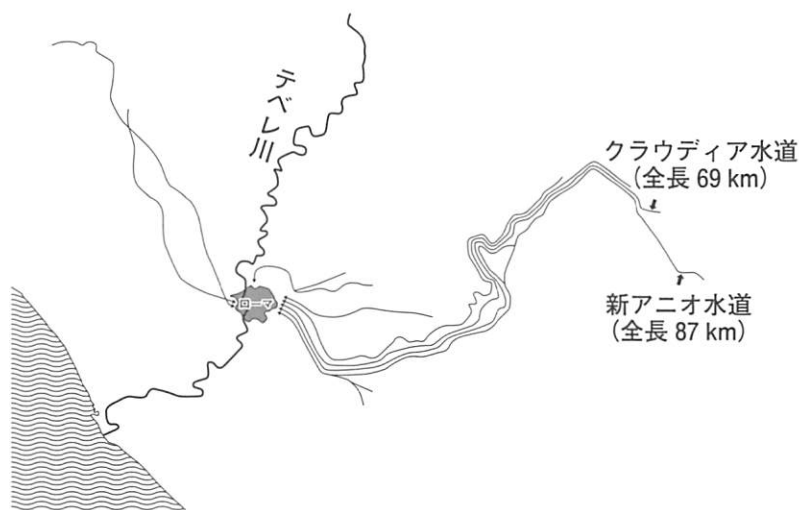
All cities need water. <sup>(2)</sup>There is 【① the health ② a great ③ nothing ④ important ⑤ of ⑥ for ⑦ as】 city as clean water. Clean water to drink. Clean water for washing. In Rome, people first got water from the Tiber River, or from the rain. But when more people started to live there, they needed more and more water. To solve this problem, they built aqueducts. The first one was built in 312 B.C. by Appius Claudius. It was called the Appian Aqueduct. Cool, fresh water was found in a mountain area 16.6 kilometers away from Rome, and it was brought to the city by the aqueduct. After that, more people came to Rome, and more aqueducts were built. In A.D. 52, two very large, long aqueducts were built. One aqueduct, the Claudia Aqueduct, brought water down

from about 69 kilometers away, and the other one, the New Anio Aqueduct, was about 87 kilometers long. By the third century A.D., there were eleven aqueducts bringing water from mountains far away to the city of Rome. (See **Picture A.**) They supported so many people in Rome.

Without modern technology, how was it possible to build these large, long aqueducts? Aqueducts moved water by using \*gravity. Water will run down a slope from any area to another area. This is a simple rule and everyone knows it. <sup>(3)</sup>However, knowing the rule was one thing, and actually making plans and building something was quite another. The slopes of the aqueducts had to be \*calculated over long distances. They had to be calculated \*precisely. \*On average, the running water went down about five meters for every one kilometer. The Romans had wonderful skills. They built aqueducts in \*tunnels through mountains, over bridges, and in tunnels under flat land. The bridges were built with \*arches in them. They were built with stones, bricks, and also very strong “Roman \*concrete,” a special type of concrete created by the Romans. The Romans knew very well how to use strong arches and concrete to support heavy things. With their skills, the Romans were able to build very strong aqueducts. In total, the eleven aqueducts were about 500 kilometers long. All of the aqueducts went through tunnels, and most of them also had bridges. But the bridges were only a short part of the long aqueducts. Most parts of the aqueducts were built under the ground to keep the water clean. And the bridges were built when they had to move water above low areas. A bridge part of an aqueduct is shown in **Picture B.**

With a lot of fresh water brought through the aqueducts, many people in Rome had a rich life and lived in good health. In the city, the water was always running, and it was kept clean. At home, they used this cool, fresh water for drinking, washing, and cooking food. Some of the water was used for public baths or \*fountains in the city. In Rome, there were eleven large public baths and about 950 small ones. Romans loved to go there to talk, relax, and take a bath. In the south of Rome, near the Appian Way, you can see the ruins of one of the largest Roman public baths. It is called the \*Baths of

**Picture A**



ローマ水道の経路

**Picture B**



クラウディア水道遺跡

Caracalla. On the large grounds, there were different kinds of baths, and also playgrounds, libraries, gyms, and gardens. There were also many beautiful \*sculptures. Anyone could go there and enjoy the baths, and people called the baths “people’s \*palaces.” Now, in Rome, people enjoy fountains full of cool, fresh water. Many fountains have beautiful sculptures. And, all around the city, there are many different kinds of ruins. When you look at them, you may want to learn <sup>(4)</sup>how it was possible to build such a great city.

〔注〕 ruin 遺跡	aqueduct 水道	A.D. 紀元 (西暦)
B.C. 紀元前	grain 穀物	olive オリーブ
transport system 輸送システム		Appian Way アップピア街道
Appius Claudius アップピウス・クラウディウス		gravity 重力
calculate 計算する	precisely 精密に	on average 平均して
tunnel トンネル	arch アーチ	concrete コンクリート
fountain 噴水	Baths of Caracalla カラカラ浴場	
sculpture 彫刻	palace 宮殿	

Picture A. B と〔問7〕の模式図は、「水道が語る古代ローマ繁栄史」中川良隆著（鹿島出版会）より作成

〔問1〕 1 の中には次の①～④の文が入る。本文の流れに合うように正しく並べかえたとき、その組み合わせとして最も適切なものは、下のア～カの中ではどれか。

- ① A lot of people started to live down there and grow food.
- ② The lower parts of Rome were covered with water, and people couldn't live there.
- ③ At first, people lived only on their highest areas.
- ④ But later they were made better for people to live there.

ア	② → ① → ③ → ④
イ	② → ③ → ① → ④
ウ	② → ④ → ① → ③
エ	③ → ① → ② → ④
オ	③ → ② → ④ → ①
カ	③ → ④ → ② → ①

〔問2〕 (2) There is 【① the health ② a great ③ nothing ④ important ⑤ of ⑥ for ⑦ as】 city as clean water. とあるが、本文の流れに合うように、【 】内の単語・語句を正しく並べかえたとき、2番目と4番目と6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。

	2番目	4番目	6番目
ア	④	①	②
イ	④	①	⑦
ウ	④	③	①
エ	⑦	④	①
オ	⑦	⑤	⑥
カ	⑦	⑥	⑤

〔問3〕 (3) However, knowing the rule was one thing, and actually making plans and building something was quite another. とあるが、その内容を次のように書き表すとすれば、最も適切なものは、次の中ではどれか。

- ア People thought it was very hard to make large, long aqueducts, but it was actually not so hard because water moved by gravity.
- イ People thought it would not be difficult to build aqueducts because they knew how water ran and how they could make the slopes.
- ウ People knew how water ran, but it was not easy to calculate slopes and build aqueducts over long distances.
- エ People built large, long aqueducts easily, though it was hard for them to calculate slopes over long distances.

〔問4〕 When you look at them, you may want to learn (4) how it was possible to build such a great city. とあるが、下線部(4)の内容として、適切でないものが一つある。次の中ではどれか。

- ア Romans built tall apartment houses in the center of the city.
- イ Romans could grow enough food in the city for over a million people.
- ウ Romans used the Tiber River and roads as part of a transport system.
- エ Romans knew how to make roads and build aqueducts.
- オ Romans could get a lot of clean water from mountains far away by building aqueducts.

〔問5〕 次の表は、本文中に述べられた出来事を、1～6の起きた順に並べたものである。表中のA、B、C、Dに、それぞれ①～④の英文を入れて表を完成するとき、最も適切な組み合わせは、下のア～カの中ではどれか。

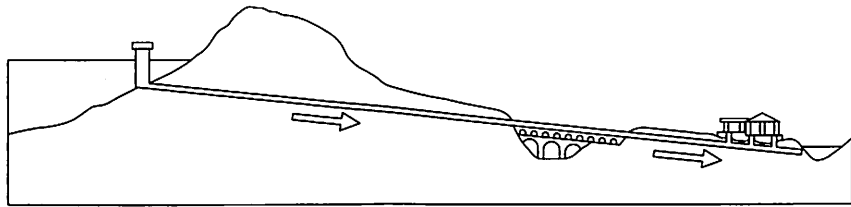
1	Rome was first built.
2	A
3	B
4	C
5	D
6	Large cities like the city of Rome were built in the West.

- ① Rome was a very large city with over a million people living there.
- ② Two very large aqueducts, the Claudia Aqueduct and the New Anio Aqueduct, were built.
- ③ The Appian Way and the Appian Aqueduct were built.
- ④ There were eleven aqueducts in the city of Rome.

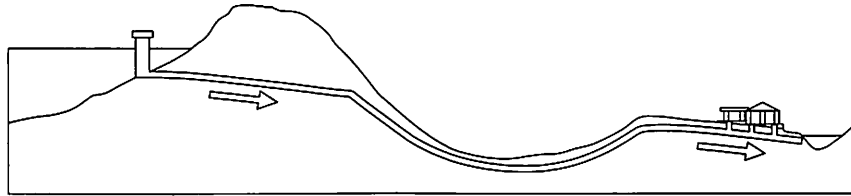
	A	B	C	D
ア	②	①	③	④
イ	②	③	①	④
ウ	②	③	④	①
エ	③	②	①	④
オ	③	②	④	①
カ	③	④	①	②

〔問6〕本文中に述べられているローマ水道を，最もよく表した模式図は，ア～ウの中ではどれか。

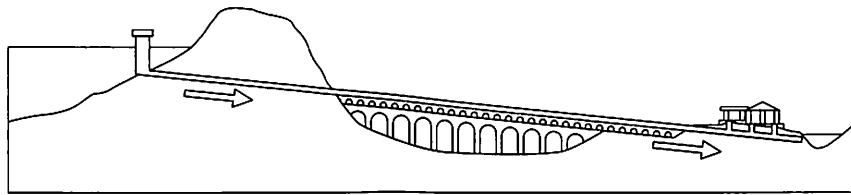
ア



イ



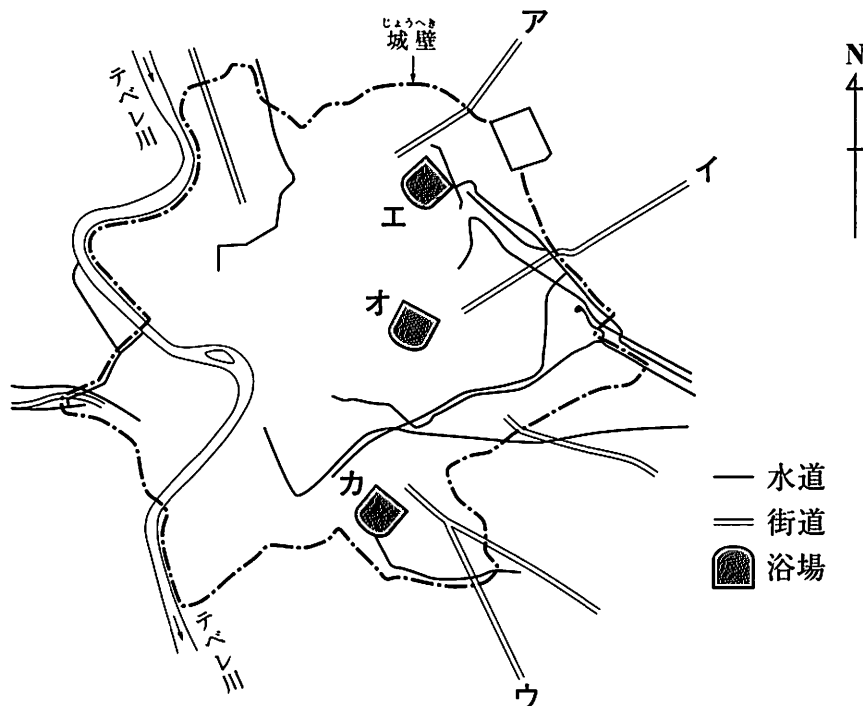
ウ



〔問7〕下の模式図は，古代ローマの町の様子を表したものである。本文中に述べられているアッピア街道は，ア～ウの中ではどれか。また，同様に，カラカラ浴場は，エ～カの中ではどれか。

(A) アッピア街道ア～ウ

(B) カラカラ浴場エ～カ



〔問8〕 次の (A), (B) について、本文の内容に合う英文の組み合わせとして、最も適切なものは、それぞれ下のア～シの中ではどれか。

(A)

- ① Olives were a very useful food. People ate them and used their oil in different ways.
- ② Before the first aqueduct was built, people in Rome only had rain water to drink.
- ③ Appius Claudius built two very long aqueducts to bring water to the city of Rome.
- ④ All the roads and aqueducts in Rome were built during the days called the “Pax Romana.”
- ⑤ Over several centuries, eleven aqueducts were built to bring water to Rome.

ア	① ②	イ	① ③	ウ	① ④	エ	① ⑤
オ	② ③	カ	② ④	キ	② ⑤	ク	③ ④
ケ	③ ⑤	コ	① ④ ⑤	サ	② ③ ④	シ	① ② ③ ⑤

(B)

- ① People in Rome knew about strong arches and Roman concrete and used them to support heavy things.
- ② People in Rome had a lot of clean water to use in their daily lives, and many people enjoyed public baths and lived in good health.
- ③ To get clean water, fresh water found in mountain areas was brought by aqueducts with long tunnels, and in the city the water was kept running.
- ④ In the city of Rome, there were a lot of large and small baths, and all together there were more than 2,000 baths.
- ⑤ Public baths like the Baths of Caracalla were called “people’s palaces” because anyone could enjoy them.

ア	① ②	イ	① ③	ウ	① ④	エ	① ⑤
オ	② ③	カ	② ④	キ	③ ⑤	ク	① ③ ④
ケ	① ④ ⑤	コ	② ③ ⑤	サ	① ② ③ ⑤	シ	② ③ ④ ⑤