

2020年度

京都大学大学院生命科学研究科修士課程

筆答試問

英 語
問 題

注意事項

- 1) 解答時間は、60分間である。
- 2) 満点は、100点である。
- 3) 全部で3問題ある。すべての問題を解答せよ。
- 4) 解答は、問題ごとに別々の解答用紙1枚を使用すること。不足する場合は裏面を使用すること。
- 5) 解答時には、まず問題番号をそれぞれ所定の欄に明記すること。

問題 1

This English Question consists of two parts. Complete both parts of this Question.

Part 1.

In the paragraph below, there are 10 word pairs in **bold**. Write each number on the answer sheet, and next to it write the correct word of the corresponding word pair.



—adapted from Castelle and Banfield (2018) *Cell*, **172**: 1181-1197

Part 2.

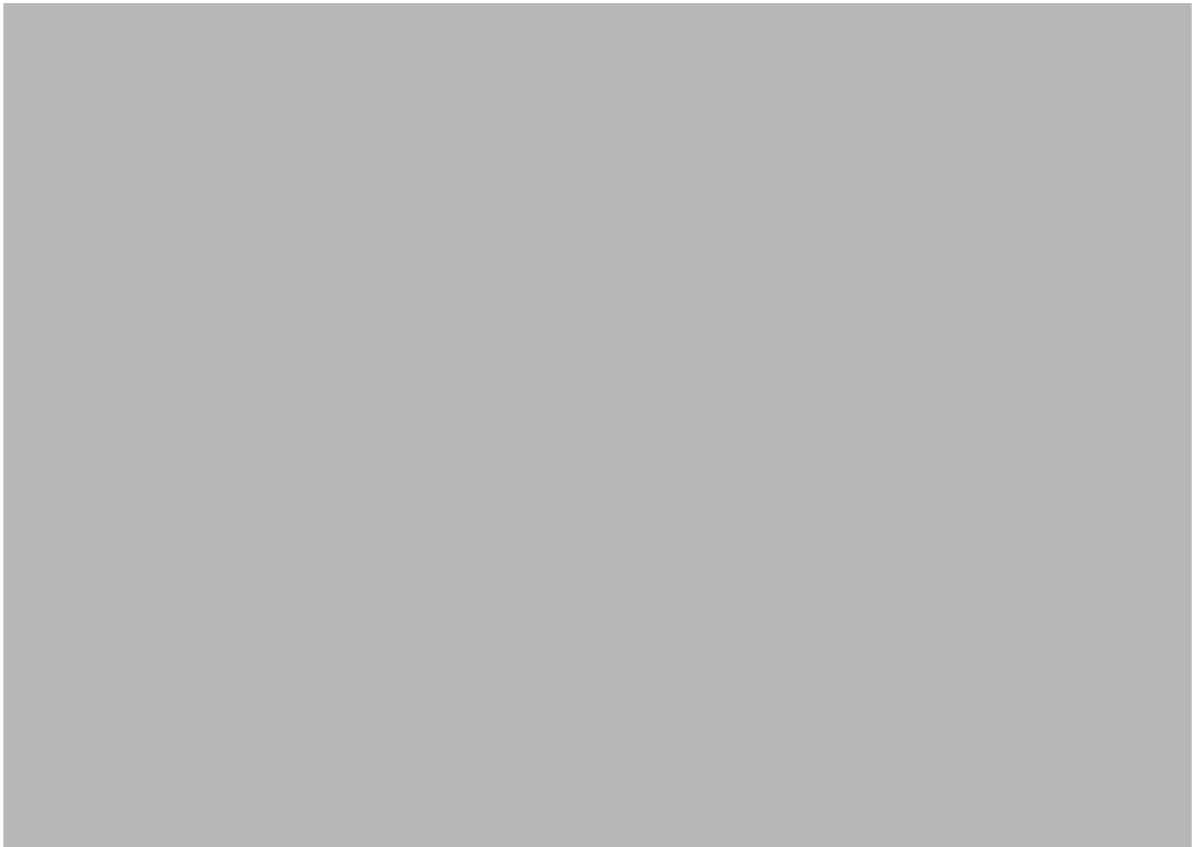
Four of the sentences below come from a single paragraph, and one sentence does not belong. The order of the four sentences that belong together has been changed.

On the answer sheet, write the numbers of the four sentences in the correct, original order.

1. It tends to be lower in men—meaning their fourth fingers tend to be longer than their second—than in women.
2. If papers published in the past 6 months are right, a single number is enough to show whether people are likely to suffer a premature heart attack, land first authorship on published papers, become dependent on alcohol, or put on fat around the middle.
3. Instead, scientists have turned to indirect evidence.
4. Thus, researchers who believe in its predictive power say it reflects a fetus's exposure to testosterone and other hormones that guide development, including that of the brain.
5. That magic number is the ratio between the lengths of the second and fourth fingers, known as the 2D:4D ratio.

問題 2

Read the following excerpt (taken from: Mariani S, *et al.* (2019) Sponges as natural environmental DNA samplers. *Curr Biol* 29:R401–R402), and answer all questions below, in English.



*(*swathes*: areas)

- Question 1.** In 2-3 sentences, describe the relative advantages of using sponges for sampling eDNA, compared to existing technology.
- Question 2.** In 1 complete sentence, describe what eDNA is.
- Question 3.** Two specific species are mentioned as sources of eDNA. What are the two species, and from what region on earth were the samples containing their DNA collected?

問題 3

Read the following excerpt, adapted from a 2019 article by Fergus Walsh of BBC News, and then answer the questions below.



Question 1. On the answer sheet, label the following statements (A, B, C) either “true” or “false”. If a statement is false, explain in English **why** it is false, in a single complete sentence.

- A) Some children in the Next Generation Children project did not have an inherited disease.
- B) All children in intensive care will be eligible for genome sequencing from 2020 onward.
- C) All children in the Next Generation Children project suffered from epilepsy.

Question 2. Translate the underlined sentences in the excerpt above, labeled (1) and (2), into Japanese.