第 1 問から第 4 問では、問題文の中の [　　] 内の数字はマークシートの問番号を示している。該当する問番号の解答記入欄に答をマークしなさい。

第 1 問　次の問 1 ～ 8 空所 [　1　] ～ [　8　] に入れるのに最も適切なものを (1) ～ (4) から 1 つ選び、その番号をマークしなさい。

問 1.　During our first year, we can’t possibly get [　1　].

(1) all the language-related credits　(2) the all language-related credits
(3) the language-related all credits　(4) the language-related credits all

問 2.　Follow your group leader’s instructions, [　2　] you will end up with the wrong schedule.

(1) nor　(2) or　(3) unless　(4) when

問 3.　It was Andy that helped the police catch the robbers, [　3　] his classmate told everyone that he hadn’t.

(1) as　(2) that　(3) though　(4) who

問 4.　Mika wanted her younger brother to [　4　] their elder brother off on his journey to Georgia, but he declined to do so.

(1) await　(2) make　(3) see　(4) wait

問 5.　She has been made [　5　] both Japanese and German.

(1) taught　(2) teach　(3) teaching　(4) to teach

問 6.　The little boy just brushed the huge dolphin [　6　] with his hand.

(1) on fin　(2) on paw　(3) on the fin　(4) on the paw

問 7.　[　7　] the neighbor’s dog barking all night, he could not sleep soundly.

(1) But for　　(2) Due to　　(3) Had it not been for　　(4) Were it not for

問 8.　The owners are [　8　] for the challenge.

(1) anxious　　(2) familiar　　(3) impossible　　(4) impressed

第 2 問　次の問 1 ～ 4 においては、それぞれ日本語の意味に合うように下の (1) ～ (7) の語句を並べかえて空所を補い、最も適切な文を完成させなさい。解答は [　9　] ～ [　16　] に入れるものの番号のみをマークしなさい。

問 1.　弟は少ない所持金をすべて競馬に使った。

My brother ＿＿＿ [　9　] ＿＿＿ ＿＿＿ [　10　] ＿＿＿ ＿＿＿ horse racing.

(1) had　(2) he　(3) little　(4) money
(5) on　(6) spent　(7) what

問 2.　彼女は過去の過ちを十分に清算した。

She [　11　] ＿＿＿ ＿＿＿ ＿＿＿ [　12　] ＿＿＿ ＿＿＿.

(1) for　(2) her　(3) made　(4) more
(5) past mistakes　(6) than　(7) up

問 3.　彼らにはその企画の進捗状況を随時伝えておくべきだった。

They should have ＿＿＿ ＿＿＿ [　13　] ＿＿＿ ＿＿＿ [　14　] ＿＿＿.

(1) been　(2) during　(3) kept　(4) on
(5) the progress　(6) the project　(7) updated

問 4.　自分の夢は実現困難だとわかっているが、あきらめたくはない。

I find that it is hard to realize my dream, but I ＿＿＿ [　15　] ＿＿＿ ＿＿＿ [　16　] ＿＿＿ ＿＿＿.

(1) go　(2) it　(3) let　(4) not
(5) of　(6) rather　(7) would

第 3 問 Read the article and answer the questions that follow.

Why is human culture－the shared body of knowledge passed down across generations－so much more powerful than animal cultures?

"What's special about our species?" is a question scientists have wrestled with for centuries, and now a scientist at Arizona State University has a new hypothesis that could change the way we perceive ourselves and the world around us.

"Ten years ago it was basically accepted that it was the ability of human culture to accumulate and evolve that made us special, but new discoveries about animal behavior are challenging these ideas and forcing us to rethink what makes our cultures, and us as a species, unique" said evolutionary anthropologist Thomas Morgan in a new research paper published this week in *Nature Human Behavior*.

Morgan is a research scientist with the Institute of Human Origins and associate professor with the School of Human Evolution and Social Change.

"It used to be thought that other species just didn't have culture," said Morgan. "And now we know that lots of other species do. Then it was thought that only human cultures accumulate or evolve over time. But now we know animal cultures can do this too."

For example, just as humans pass on knowledge to our children, when a new queen leafcutter ant hatches, she collects a little mouthful of her mother's fungus and takes it with her to start a new colony. This has been happening for so long－millions of years－that the fungus within these colonies is genetically different from the wild fungus outside of the colonies.

Similar to how human languages change, new data shows that humpback whale songs evolve, spread between groups and become more complex over time. Like humans, chimpanzees learn to use tools, and we now have evidence that they have been doing so for thousands, perhaps millions, of years.

These discoveries, along with others, have shown that not only do animals have culture, but there are also examples of accumulation in their culture, something that for a long time was believed to be uniquely human. So, if animals do have evolving cultures, then what's special about human culture that differentiates us from other animals?

The power of 'open-endedness'

Morgan and Stanford University Professor Marcus Feldman address this question in their new paper, "Human culture is uniquely open-ended not uniquely cumulative, " published in *Nature Human Behaviour*.

They present a new hypothesis: that we humans dominate and are so special because of "open-endedness"－our ability to communicate and understand an infinite number of possibilities in life.

"The way that animals think about what they're doing constrains the way that their cultures can evolve," said Morgan. "One way might be that they can't imagine elaborate sequences very easily, or they can't imagine subgoals."

"For example, when I'm making my boys' breakfast in the morning, it's a nested, multistep process. First, I need to get the bowls and pots and other equipment. Then I need to put the ingredients in the pot

and start cooking, all in the right amounts and order. Then I need to cook it, stirring and monitoring temperature until it reaches the right consistency, and then I need to serve it up."

"Each of these steps is a subgoal, and these subgoals have steps within them that I need to execute in the right order, so this whole thing is an elaborate (　あ　)."

When it comes to the limit of this system, human brains just keep going; we are able to build and retain sequences of instructions that are deeply complicated, and this allows us to perform a near infinite set of behaviors－this is open-endedness.

注　fungus 菌類　　cumulative 累積する　　consistency 料理のとろみや粘り気

https://news.asu.edu/20241107-health-and-medicine-asu-paper-what-makes-human-culture-unique

問 1. Based on the context of the article, which word best fits (　あ　)? Write the number of your answer in [　17　].

(1) duration　(2) procedure　(3) ritual　(4) tradition

問 2. Which statement is closest in meaning to what is mentioned in this article? Write the number of your answer in [　18　].

(1) Animal cultures are limited in how they evolve.
(2) Animals are considered culturally more advanced than humans.
(3) Human cultures are determined only by their environment.
(4) Humans are culturally bounded in the same way as animals are.

問 3. Which of the following is NOT mentioned in the article? Write the number of your answer in [　19　].

(1) Chimpanzees have been utilizing tools for thousands of years.
(2) Humpback whales' songs are passed between groups without alteration.
(3) Some queen ants carry fungus from their mothers when founding new colonies.
(4) The human brain enables people to carry out a boundless set of actions.

第 4 問 Read the article and answer the questions that follow.

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問 1. Based on the context of the article, which word best fits (あ). Write the number of your answer in [20].

(1) harmful (2) inevitable (3) moderate (4) spontaneous

問 2. Which statement is closest in meaning to what is mentioned in this article about the HBSC study? Write the number of your answer in [21].

(1) A commentator on the study suggests different groups need to fulfill their roles to guide children toward healthy online behavior.
(2) A reviewer of the study concludes that, overall, the time spent online is more damaging than beneficial for adolescents.
(3) The study defines problematic social media very clearly among the European youths.
(4) The study shows that boys are more likely than girls to show problematic social media use.

問 3. Which of the following is NOT mentioned in the article? Write the number of your answer in [22].

(1) Continuous online contact with other people is reported by over a third of adolescents.
(2) Problematic social media use can lead to arguments and withdrawal symptoms.
(3) Social media can provide peer support and stronger social connections.
(4) 13-year-old boys in Scotland reported a 57 % rate of long gaming sessions.

この後の第 5 問と第 6 問は記述用解答用紙に解答しなさい。

第 5 問　次の英文を読み、後の問いに答えなさい。

As researchers make progress in understanding how Alzheimer's disease develops, there are growing opportunities for healthy research participants to learn their risk of developing Alzheimer's disease dementia in the future. However, sharing risk estimates with individual participants presents a number of challenges.

A new study from Washington University School of Medicine in St. Louis examines the choices such healthy research volunteers make when given the opportunity to learn their risk of developing Alzheimer's disease dementia. The researchers found a large discrepancy between the percentage of participants who said they would like to learn their risk if such estimates became available and the percentage who followed through to learn those results when given the actual opportunity.

The knowledge could help researchers design studies that offer the option of receiving results in ways that don't pressure participants into making one choice over another. The study also emphasizes the importance of ensuring participants truly want their research results because hypothetical interest does not necessarily translate into wanting to learn one's risk of Alzheimer's disease dementia when it is actually offered.

"In general, there is movement toward giving research participants and patients their test results, even in situations when nothing can be done with those results," said senior author Jessica Mozersky, PhD, an assistant professor of medicine at the Bioethics Research Center and an investigator at the Charles F. and Joanne Knight Alzheimer Disease Research Center, both at WashU Medicine. "But our study suggests that in sensitive cases ― such as when estimating the risk of developing a debilitating and deadly disease ― people should have the option not to know."

【　あ　】

Ethical concerns remain because of the possibility of causing anxiety and other harm to participants who learn they are at high risk of developing a debilitating and incurable dementia. Unlike preventive options for individuals who learn they are at high genetic risk of certain cancers, for example, there are currently no approved preventive treatments or medical interventions available to stave off Alzheimer's disease dementia.

To get a clearer picture of who declines Alzheimer's disease dementia risk results and why, Mozersky and her colleagues turned to long-running research at WashU Medicine's Knight Alzheimer Disease Research Center. Since 1979, the Memory & Aging Project has provided a framework to study brain function in participants as they age. Over the decades, the project has evolved and expanded into several long-running studies of the development and progression of Alzheimer's disease, including the development of biomarker tests to determine risk.

【　い　】

For the current study, Mozersky's team focused on cognitively normal volunteers who underwent a battery of tests, including genetic tests, blood draws and brain scans, from which researchers could estimate their probability of developing Alzheimer's disease dementia over the following five years. Participants originally joined the long-term study understanding that they would not have the option to receive their own risk results. Even so, Mozersky said, over the years many have expressed a theoretical interest in learning their results. The study, co-led with Sarah M. Hartz, MD, PhD, a professor of psychiatry at WashU Medicine, offered results to a subset of participants in the Memory & Aging project — 274 participants — to assess the psychological impact of learning their risk, and the factors they consider when making that decision.

Before deciding, participants received an information guide explaining how risk is estimated and listing some examples of pros and cons of learning their results. For example, on the pro side, they may become eligible to participate in clinical trials of investigational prevention strategies, if biomarker test results suggest a participant is at high risk of developing Alzheimer's disease dementia over the next five years. On the other hand, knowledge of high risk may cause anxiety.

【　う　】

When the results were theoretical, 81% of people in the larger, long-term research said they would choose to know. In contrast, when real results were offered to the 274 participants in the Memory & Aging Project, only 60% opted to receive them. Participants with a parental history of Alzheimer's disease and participants who self-identified as African American were more likely than others to decline the results.

A sample of participants who declined to learn their results were interviewed afterward, and the most common reasons given included that knowing would be a burden to themselves or their family members and that there is still uncertainty in predictions of disease risk.

【　え　】

Because the results are only available through research studies, they are not added to the participant's medical record by the investigators. Still, such results could end up in a patient's medical record if a participant shares them with their doctor.

【 お 】

“We plan to continue our research into the complexities of these questions, especially as returning results to research participants becomes more common, even if those results can’t be acted on yet,” Mozersky said.

注 dementia 認知症
debilitating 消耗性の
clinical trial 臨床試験
discrepancy 相違
stave off ～を遅らせる
follow through 意志を貫く
biomarker test 健康指標試験

問1. Mozersky たちの研究に関する以下の問いに答えなさい。

(i) Mozersky たちは、配慮が必要な事例では、被験者が試験結果を受け取らないという選択肢を残すべきであると述べているが、調査者側の一般的動向はどのようなものか、本文の内容に即して 35 字~45 字の日本語で答えなさい。

(ii) アルツハイマー認知症に関するリスク評価結果を受け取るメリットにはどのようなものがあるか、本文の内容に即して日本語で答えなさい。

(iii) 以下の記述の空欄を、本文の内容に即して 20 字~30 字の日本語で埋めなさい。

「Mozersky たちの研究によると、被験者の 81%は、仮に評価結果が入手可能であるならばそれを受け取りたいと答えたが、［　　］のは被験者のうち 60%のみだった。」

(iv) 試験結果の受け取りを断った被験者へのインタビューでは、受け取りを断った理由としてどのようなものが挙げられたか、本文の内容に即して日本語で２つ答えなさい。

問 2.　次の段落は本文のどの位置に置くのが最も適切か、【あ】～【お】の記号で答えなさい。

“The lack of preventive treatments is also a big factor in declining to receive the results of biomarker tests among people without symptoms of Alzheimer’s disease dementia,” Mozersky said. “When we conducted interviews with some participants to better understand their choice not to know, many said that a new effective treatment might change their mind, if it became available.”

注　biomarker test　健康指標試験　　dementia　認知症

第６問　次の英文を読み、下線部(1)～(3)の内容を英語にしなさい。

Using cutting-edge DNA analysis, scientists have uncovered the true identity of an ancient human relative nicknamed the “Dragon Man.”

The mystery began with a giant, human-like skull discovered by a Chinese laborer in Harbin City, China, in 1933. In 2018, the man’s family recovered the Harbin skull, which the laborer had buried in a well, and donated it to science. The enormous cranium features a long, low braincase and a massive brow ridge, along with a broad nose and big eyes. Based on the skull’s unusual shape and size, experts gave it a new species name — *Homo longi*, or “Dragon Man” — in 2021.

But in the past several years, there has been intense debate about whether Dragon Man, who lived at least 146,000 years ago, is a separate species. Instead, some researchers have claimed that the Dragon Man skull may be from a group of ancient humans called the Denisovans, since no Denisovan skull had ever been found.

Now, in two studies published in the journals *Science* and *Cell*, researchers have proved that Dragon Man is indeed the face of Denisovans.

(1)科学者ははじめハルビンで発見された頭蓋の骨や歯から古代のゲノム(genome)を取り出そうとしていたが、うまくいかなかった。But they were able to recover some DNA from plaque that had hardened on the teeth and some information on proteins from an inner ear bone.

Mitochondrial DNA (mtDNA), which is passed from mother to child, recovered from the skull showed that Dragon Man was related to an early Denisovan group that lived in Siberia from around 217,000 to 106,000 years ago, which means that Denisovans inhabited a large geographical range in Asia, the researchers wrote in the *Cell* study.

Additionally, the researchers investigated the skull’s “proteome,” the set of proteins and amino acids found in the skeleton. By comparing the proteome to those of contemporary humans, Neanderthals, Denisovans and nonhuman primates, the researchers found a clear connection between the Harbin cranium and early Denisovans, they wrote in the *Science* study.

“We now have the first comprehensive morphological blueprint for Denisovan populations, and (2)これは、デニソワ人がどのような見た目であったのかに関する、ここ十年間続いている未解決の問題に取り組むのに役に立つ,” they wrote in the *Science* study. In short, Denisovans looked like Dragon Man.

While the mystery of the enormous skull has been largely resolved, experts still need to discuss its assignment to the *H. longi* species.

“This work makes it increasingly likely that Harbin is the most complete fossil of a Denisovan found so far,” Chris Stringer, a paleoanthropologist at the Natural History Museum in London who has worked on the Harbin cranium but was not involved in these new studies,

told *Live Science* in an email. Stringer added that "*Homo longi* is the appropriate species name for this group," although at this point, the group is small.

But (3)ハルビンで発見された頭蓋骨はデニソワ人であると新たに特定されたことで、専門家たちは、アジアにおける人間の進化についての自分たちの認識を再検討しなければならなくなる, particularly in the Middle Pleistocene epoch, around 789,000 to 126,000 years ago. During this period, Eurasia was home to at least three different hominins — humans, Neanderthals and Denisovans — that frequently mated with one another.

注　cranium 頭蓋骨　　braincase 脳頭蓋