令和３年度入学者選抜試験問題

人文社会科学部
地域教育文化学部
医学部

外　国　語

（英　　語）

前　期　日　程

注　意　事　項

1　試験開始の合図があるまで，この問題冊子の中を見てはいけません。

2　この問題冊子の本文は１ページから９ページまでです。

3　試験中に問題冊子の印刷不鮮明・落丁・乱丁，解答用紙の汚れなどに気が付いた場合は，手を挙げて監督者に知らせてください。

4　監督者の指示にしたがって，解答用紙に**学部名**と**大学受験番号**を正しく記入してください。**大学受験番号**が正しく記入されていない場合は，採点されないことがあります。

5　問題冊子のほかに，解答用紙２枚，下書き用紙１枚を配付してあります。

6　試験終了後，問題冊子と下書き用紙は持ち帰ってください。

次のページから問題冊子の本文が始まります。

I Read the text and answer Q1-Q6.

A In the 17th century, Pierre de Fermat wrote a short note in a textbook margin that would puzzle mathematicians for more than three centuries.

B Fermat had a theory. He proposed that there's no solution to the formula $a^n + b^n = c^n$ for any n greater than 2. "I have a truly marvelous demonstration of this proposition," he wrote, "which this margin is too narrow to contain." And that's all he wrote.

C Fermat died before supplying the missing proof for what came to be known as Fermat's last theorem*. The problem he left behind continued to fascinate mathematicians for centuries (and made them wish Fermat had a bigger book to write on). Generations of mathematicians tried and failed to prove Fermat's last theorem—until Andrew Wiles came along.

D For most ten-year-olds, the definition of a good time doesn't include reading math books for fun. But Wiles was no ordinary ten-year-old. He would hang out at his local library in Cambridge, England, and surf the shelves for math books.

E One day, he spotted a book devoted entirely to Fermat's last theorem. He was excited by the mystery of a theorem that was so easy to state, yet so difficult to prove. Lacking the mathematical skills to tackle the proof, he set it aside for over two decades.

F He returned to the theorem later in life as a math professor and devoted seven years to working on it in secrecy. In a 1993 lecture in Cambridge, Wiles publicly revealed that he had solved the centuries-old mystery of Fermat's last theorem. The announcement made mathematicians go crazy: "It's the most exciting thing that's happened in mathematics," said Leonard Adleman, award-winning professor of computer science at the University of Southern California. Even the *New York Times* ran a front-page story on the discovery, exclaiming, "At Last, Shout of 'Eureka*!' in Age-Old Math Mystery."

G But the celebrations proved premature. Wiles had made a mistake in a critical part of his proof. The mistake emerged after Wiles submitted his proof for publication. It would take another year, and collaboration with another mathematician, to repair the proof.

H Reflecting on how he eventually managed to prove the theorem, Wiles compared the process of discovery to navigating a dark mansion. You start in the first room, he said, and spend months feeling around, poking, and bumping into things. After tremendous confusion, you might eventually find the light switch. You then move on to the next dark room and begin all over again. These breakthroughs*, Wiles explained, are "the result of—and couldn't exist without—the many months of stumbling around in the dark that precede them."

I In some cases, scientists keep stumbling around in the dark room, and the search continues well past their lifetime. Even when they find the light switch, it may illuminate only part of the room, revealing that the remainder is far bigger—and far darker—than they imagined. But to them, stumbling around in the dark is far more interesting than sitting outside in well-lit corridors.

J In school, we're given the false impression that scientists took a straight path to the light switch. There's one curriculum, one right way to study science, and one right formula that spits out the correct answer on a standardized test. Textbooks, explained physics professor David Gross in his Nobel Prize lecture, "often ignore the many alternate paths that people wandered down, the many false clues they followed, the many misconceptions they had." We learn about Newton's "laws"—as if they arrived directly from God or Newton's own genius—but not the years he spent exploring, revising, and improving them. The laws that Newton failed to establish—most notably his experiments in alchemy*, which attempted, and spectacularly failed, to turn lead into gold—don't survive as part of the one-dimensional story told in physics classrooms. Instead, our education system turns the life stories of these scientists from lead to gold.

K As adults, we believe (or pretend to believe) there is one right answer to each question. We believe that this right answer has already been discovered by someone far smarter than us. We believe the answer can therefore be found in a Google search, acquired from the latest "3 Hacks* to More Happiness" article, or handed to us from a self-described life coach.

L Here's the problem: Answers are no longer a scarce resource, and knowledge has never been cheaper. By the time we've figured out the facts—by the time Google, Alexa, or Siri can spit out the answer—the world has moved on.

M Obviously, answers aren't irrelevant. You must know some answers before you can begin asking the right questions. But the answers simply [a / as / discovery / serve / starting point / to]. They're the beginning, not the end.

(Adapted from Ozan Varol, *Think Like a Rocket Scientist*, PublicAffairs, 2020)

Vocabulary

Fermat's last theorem　フェルマーの最終定理
Eureka　分かったぞ
breakthroughs　（難局の）打開
alchemy　錬金術（鉛のような卑金属を金のような貴金属に変える方法）
Hacks　秘訣

Q1 Which of the four choices (A)-(D) is the closest in meaning to the underlined parts (1)-(5)?

(1) puzzle (paragraph A)

(A) anger
(B) confuse
(C) encourage
(D) enlighten

(2) hang out (paragraph D)

(A) keep good time
(B) pass the time
(C) spend no time
(D) waste his time

(3) set it aside (paragraph E)

(A) focused on it
(B) left it alone
(C) looked into it
(D) sent it off

(4) premature (paragraph G)

(A) too early

(B) too late

(C) too mature

(D) too precious

(5) misconceptions (paragraph J)

(A) common ideas

(B) correct ideas

(C) incorrect ideas

(D) uncommon ideas

Q2 Explain the underlined part in paragraph C in 15-25 Japanese characters.

Q3 Translate the underlined part in paragraph H into Japanese.

Q4 Explain the underlined part in paragraph L in 30-40 Japanese characters.

Q5 Put the following underlined words in the correct order to match the context of paragraph M.

But the answers simply [a / as / discovery / serve / starting point / to].

Q6 Choose the two statements from (A)-(F) below that match the content of the text.

(A) Andrew Wiles was able to solve Fermat's last theorem soon after he had read about it.

(B) Wiles' 1993 proof of Fermat's theorem was not seen as very significant when it was first announced.

(C) Wiles was unable to solve Fermat's last theorem on his own.

(D) Scientists always find their way out of the "dark room" and make discoveries.

(E) For scientists, "stumbling around in the dark" represents intellectual struggles they are involved in.

(F) Textbooks do a good job in fully explaining scientists' struggles on the way to breakthroughs.

II Read the text and answer Q1-Q5.

A When you collapse on the couch after a long workday and start looking through social media, you're not doing your tired brain any favors, says author Celeste Headlee. "Your brain sees your phone as work," she explains. "To your brain, any time that phone is visible, part of your brain is using part of its energy on preparing for a message to come in. It's like a runner at the starting gate." Researchers have found that simply having your phone nearby can stress your brain. "You're carrying your work literally everywhere," Headlee says. "As (1) as your brain and body are concerned, you're never taking time off."

B In her new book, *Do Nothing*, Headlee, a longtime journalist and public radio host, encourages readers to be intentional about protecting their leisure time. She came to that realization after she found herself sick in bed for the second time in just a couple of months. "I was more successful than ever," she recalls. "Things were going really well for me. So why was I not only sick but also (2)?"

C Headlee started digging into the research and found evidence that the brain works best when it can alternate between focused labor and rest. Because even when it's "resting," your brain is busy doing critical tasks. In fact, the brain is nearly as active during periods of rest as it is during periods of focus. "It's searching through memories and making new connections," Headlee explains. "It's doing surprising things because it's not focused on a task. So that's where a lot of creativity comes from and innovation ... making unexpected connections."

D But current American culture doesn't necessarily support that kind of mental leisure. Headlee often asks people whether they can simply sit down and watch a movie on Netflix—just watch a movie. "I often get the response of, 'No, if I'm just sitting there, I feel guilty,'" Headlee says. She wants to help readers recover their relationship with *nothing*. The cover of her book features a picture of a sloth*. "Is a sloth really lazy, or do they just move more slowly and deliberately?" she asks. "Some things have to go fast, but not *everything* does."

E Headlee says it's time for a reexamination of America's obsession with efficiency and speed. She believes that we are pushing our brains and bodies in unhealthy ways and that this is playing a role in the nation's fatigue. Researchers, she says, have kept good time records for decades and haven't found that Americans are necessarily working more hours. And yet, we report feeling overwhelmingly busy. "I don't question anybody's claim that they're exhausted," Headlee says. "I know they are—I was." Headlee found that simply tracking her time helped make her more mindful of the way she was spending it. When she

started keeping a diary of her days, she admits, she was (3) to see how much online shopping she was doing.

F "Once you subtract sleep, and work, and eating, and commuting, and all those other things, you have probably somewhere between five or six hours a day at your disposal to do with as you please," Headlee says. "If you're using up half of that idly paging through Facebook and 'liking' things, it might come as a surprise to you that you have more time than you think." To try to take back that time, Headlee has tried to limit the hours she spends engaging with email and social media. "I took almost every app* off my phone," she says, and she only checks email once per hour. She also does an "untouchable day" each week—a day she spends entirely off social media and email. "It was really scary at first, and I really struggled to keep it up," she admits.

G She set up an email auto-reply that essentially says: "If it's really important, just call." "It's been two years. No one has called," she says. "Nobody. It's never been so urgent that people picked up the phone. That tells me that most of our emails are *not* urgent." Of course, not everyone has the luxury of being able to (4) that way. Headlee understands that for many workers, their "schedules are simply not their own." But here's her advice: "When you come home, finally, at the end of your day and you're exhausted—it's very tempting to say, 'I can't do anything else.' But instead of looking through Instagram, walk around your block—take that time, because your brain and your body will thank you."

(Adapted from an online article on npr.org, March 12, 2020)

Vocabulary

sloth ナマケモノ（動物）
app アプリ

Q1 Which of the four choices (A)-(D) is the most appropriate for the blank spaces (1)-(4)?

(1) in paragraph A

(A) far
(B) late
(C) many
(D) soon

(2) in paragraph B

(A) cheerful
(B) foolish
(C) miserable
(D) satisfied

(3) in paragraph E

(A) pleased
(B) pleasing
(C) surprised
(D) surprising

(4) in paragraph G

(A) disagree
(B) discharge
(C) disconnect
(D) discount

Q2 Translate the underlined part in paragraph C into Japanese.

Q3 According to the context, which of the four choices (A)-(D) best matches the meaning of the underlined part in paragraph **G**?

(A) Everything was really urgent, but people did not make a phone call.
(B) Everything was really urgent, so people made a phone call.
(C) Nothing was really urgent, but people made a phone call.
(D) Nothing was really urgent, so people did not make a phone call.

Q4 According to the content of the text, circle T for the true statements, and F for the false statements.

(A) If you can see your phone, your brain can relax.
(B) Headlee doesn't think our leisure time is important.
(C) Even when the brain is resting, it is productive.
(D) Americans feel bad about just watching a movie at home.
(E) In general, Americans today are working more hours than twenty years ago.
(F) Using social media for several hours a day can help us rest our brain.
(G) Headlee's "untouchable day" turned out to be a complete disaster.
(H) Taking a walk is both physically and mentally good for one's health.

Q5 Celeste Headlee takes one day off social media and email every week. Do you think you could do the same? Explain your opinion in 30-40 English words.