

英 語
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## 〔注 意 事 項〕

1. 監督者の指示があるまでは、この問題冊子を開かないこと。
2. 解答用紙は、コンピュータで処理するので、折り曲げたり汚したりしないこと。
3. 解答用紙に、氏名・受験番号を記入し、受験番号をマークする。マークがない場合や誤って記入した場合の答案は無効となる。

受験番号のマーク例(13015の場合)

受 験 番 号				
1	3	0	1	5
万位	千位	百位	十位	一位
	①	●	①	①
●	①	①	●	①
②	②	②	②	②
③	●	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	●
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

4. 解答用紙にマークするときは、HBまたはBの黒鉛筆を用いること。誤ってマークした場合には、消しゴムで丁寧<sup>ていねい</sup>に消し、消し<sup>ていねい</sup>ずを完全に取り除いたうえで、新たにマークし直すこと。
5. 下記の例に従い、正しくマークすること。

(例えばcと答えたいとき)

正しいマーク例

①	②	●	④	⑤	⑥
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誤ったマーク例

①	②	③	④	⑤	⑥
①	②	③	④	⑤	⑥
①	②	③	④	⑤	⑥
①	②	●	④	⑤	⑥

○をする  
 Vをする  
 完全にマークしない  
 枠からはみ出す

6. 解答は、すべて解答用紙の所定の位置に記入すること。
7. 最後の問題 Ⅴ に自由英作文があるので、時間配分に注意すること。

I 次の英文を読み、下記の設問に答えなさい。

There are 12,000 people in the UK over 100, a number set to rise as medicine advances. What is the reality of ( 1 )? Hetty Bower, 106, and Peggy Megarry, 100, live in the same residential care home. They talk to Susanna Rustin.

**Susanna Rustin:** Did you ever imagine living so long?

**Hetty Bower:** Good gracious, no! I come from a very large family — I had seven sisters so we were eight girls, and two brothers. All of them but me have gone. I wasn't the youngest, so why it is I don't know. My mother was a seventh child and I am my mother's seventh child, so I'm the seventh child of a seventh child. But I don't feel lucky, no I don't, although I was fortunate in having parents who loved each other.

**SR:** What is life like here?

**Peggy Megarry:** Well, in the morning you hope someone will arrive to put your stockings on, and your bedroom slippers, and they take you to the loo<sup>注1</sup> and after that you wash, they help you, and after that you have breakfast, which is brought to me in my room I'm glad to say. I don't enjoy group meals, there's a lot of chatter. I try to get out every afternoon because one tends to put on weight here with the diet.  
(a)

**SR:** Do you enjoy your food?

**HB:** I wouldn't say I enjoy it. I eat because it's necessary. You get hungry if you don't eat and that's not pleasant. But I can't say I long for my meals — no, not now.

**PM:** I don't enjoy the stodgy<sup>注2</sup> puddings, I just eat salad a lot of the time. I enjoy Chinese food, but in China my mother would never let the cook make a Chinese meal. The first time we had a new cook, for lunch we were given roast chicken on a large plate with apple pie and custard! My mother had to explain they were two different courses.

**SR:** Do you think often about the past?

**PM:** Oh yes, at night in bed I think of chunks of the past, a long way back. It depends what my mind is centred on, but there are plenty of memories. I had an *amah* [nanny], you see, in China; she looked after me and we all loved our *amahs* more than our mothers. Friends who grew up in China all say that.

**SR:** You've got more experience of life than most people. What have been the best times?

**PM:** I enjoyed bits of boarding school, funnily enough. We had a good art teacher. She sent my paintings to London. I'd done a sheet of Chinese costumes and some arts society was kind enough to buy it. They sent me a guinea<sup>#3</sup> and said it would be in their permanent collection. Then I left that school because we were coming to England.

**HB:** I wouldn't say I have a best time, but the most important person in my life was Reg, my ( 2 ). I joined the Labour party, and in 1931 when I came back from holiday I was given a little batch of leaflets with the names of people who had applied. I was told to go and meet them, give them a warm welcome. And among them was a certain Reg Bower. My first reaction when I saw him was: what a pity he isn't a Jew, because he was very pleasant-looking and you couldn't help but respond to that smile! We were married 69 years.

**SR:** Did you celebrate turning 100?

**PM:** I got my telegram from the Queen and also a telegram from the minister for work and pensions, so that was a surprise. Ha ha! We had a party, but after the invitations went out the council demanded we replace the kitchen, so from then on it was chaos. But they let us have the party in the dining room.

**HB:** It was here. It was great fun and several people have said, "If ever you forget how old you are, just ask me, because I arrived on the date of

your 100th birthday."

**SR:** Is it hard work staying cheerful?

**HB:** Oh crumbs<sup>ii4</sup>, it never occurs to me to think if it's hard work. I just think it wouldn't be very pleasant to go around with a [pulls a sour face]. One likes to be pleasant for other people to look at, so I do tend to sometimes look like a Cheshire cat<sup>ii5</sup>. But once you make real friends, people you can discuss things with — books, music — you're<sup>(b)</sup> knitting a life, and I've done that with many people who are now no longer alive, and you miss your friends once they go. I have very few people now who were here when I came, or who came soon after me. On the other hand, there are a few people who came because I'm here, because it's nice for them to know someone.

**PM:** I can still read books. When I heard Barry Unsworth had died I looked in the bookshelves and found his book that won the Booker<sup>ii6</sup> [Sacred Hunger], so I'm well into that now.

**HB:** That's what I envy! I can't read, my vision is so poor I can only read with a magnifying glass, and it's very ( 3 ). I listen to the radio, and when I go to stay with my daughters they read to me.

**SR:** What would you change, if you could?

**PM:** I wish I could go through the gates and walk. I feel like a prisoner. I can walk along a road but I don't know north London at all — that's the only snag. My last fall will be three years ago at Christmas, but it's the rule of the house that unless I'm with a helper I mustn't go out.

**HB:** Why did you come here, Peggy?

**PM:** My son thought I needed more help. I felt if I could manage my weekly trip to Lidl, where I got all the bargains, I could have stayed at home. But the last time I went there it was quite a job. I came here on 4 June 2007. Before that I lived in Southfields for 31 years.

**HB:** I don't feel stuck here — I'm very fortunate to have a place like this.

We have a lovely garden. But I miss not being able to read a newspaper. I was a Guardian reader and [my daughter] Margaret reads me the important things, but I can't expect her to read every word. And yet I'm happy, because my mind is still functioning.

SR: ( 4 )

HB: No, I do not. I really hope I don't make another birthday. There doesn't seem much purpose. I know that Margaret and her sister Celia could live fuller lives if I wasn't here.

注1 : loo トイレ

注2 : stodgy 胃にもたれる

注3 : guinea (英国の昔の金貨)ギニー

注4 : crumbs (驚きの間投詞)いやはや

注5 : Cheshire cat (『不思議の国のアリス』に登場する)むやみにニヤニヤ笑う猫

注6 : the Booker (英国で権威のある文学賞)ブッカー賞

出典 : *The Guardian*. (2012). June 29, 2012. Retrieved from

<http://www.theguardian.com/commentisfree/2012/jun/29/conversation-life-after-age-100>

問 1 英文の内容に合うように, (1)~(4)の空所を補うものとして最も適したものをそれぞれ選択肢 1 ~ 4 の中から選びなさい。

- (1) 1. a 10th decade  
2. an 11th decade  
3. the 19th century  
4. the 20th century

- (2) 1. father  
2. brother  
3. cousin  
4. husband

- (3) 1. skillful  
2. unpredictable  
3. effortless  
4. laborious

- (4) 1. Do you hope to live much longer?  
2. Do you like to work in this home?  
3. Do you hope to start another hobby?  
4. Do you feel lonely staying here?

問 2 英文の内容に合うように、(1)~(6)の質問に対する答えとして最も適したものをそれぞれ選択肢 1 ~ 4 の中から選びなさい。

- (1) How many children did Hetty Bower's parents have?
1. eight boys and girls
  2. ten boys and girls
  3. five boys
  4. seven girls
- (2) What does the phrase to put on weight here with the diet refer to?  
(a)
1. to get exercise and try to lose weight
  2. to pay attention to every meal in order not to gain weight
  3. to gain weight because the meals contain too many calories
  4. to listen to a debate about diet and weight
- (3) What does the phrase you're knitting a life refer to?  
(b)
1. you are forming close connections with the people around you
  2. you are making clothes with yarn for your whole life
  3. you are choosing every step in your life carefully
  4. you are planning important and unforgettable events in your life
- (4) What does the phrase I am well into that refer to?  
(c)
1. I have read much of the book but not all
  2. I am collecting the author's books
  3. I feel energetic when I read the book
  4. I realize the book is a great source of knowledge

(5) How is the general atmosphere of this interview?

1. cooperative
2. competitive
3. challenging
4. comical

(6) What is the best title for this interview?

1. How to survive in a residential care home.
2. How difficult it is to find real friends.
3. What is life like after 100?
4. What do the elderly recall most?



II 次の英文を読み、下記の設問に答えなさい。

① At first glance on a Tuesday morning, this looks like a normal classroom in any school in Britain. There's a whiteboard, a playground and bustling teachers.

② Look closely at the collage of pupil photos on the wall, however, and you see many of them have a tube coming out of their nose or are in a hospital bed. Great Ormond Street Hospital, in Central London, is world famous, but few realise it has its own flourishing school. Funded by the Department for Education, pupils here sit GCSEs<sup>(a)</sup> and A levels, and it is rated Outstanding by Ofsted, the national schools' inspector. Every curriculum subject is covered, and there are school reports and homework. But because of its pupils' medical conditions, there are crucial differences.

1

③ So, yes, it has PE lessons and even a sports day, but the races are in pick-up-sticks and juggling; the trophies are awarded not for physical proress but for "friendship and determination."<sup>(b)</sup> Where in ordinary schools punctuality is demanded, here a sign declares: "Please join the lesson at any time — don't worry if you're late." Coming to class in pyjamas is welcome, and most pupils don't even have to get out of bed.

2

④ The pupils have a range of serious health conditions and, sadly, admits the headmistress Jayne Franklin: "We do lose children. They can die." Any child staying at the hospital for five or more days can join the roll, but half of its pupils are "long-stay" patients; those on dialysis as they wait for kidney transplants or children with cancer, major gastro-intestinal problems and mental health in-patients, all of whom may be in hospital for months, even years.

3

⑤ Ten-year-old Chloe is one long-term patient. She often isn't well enough to come down to the classroom and so is taught one-to-one in her bed on the cardio-respiratory unit by her teacher Bianca. Chloe has cystic fibrosis<sup>12</sup> and for the past year has been staying at the hospital for three out of every eight weeks to have her medication intravenously. Chloe is pale and looks fragile. The pain of her condition, the monotony of spending so much time in hospital is hard. "It's really boring," she admits. "You want to go home."

4

⑥ Bianca covers all subjects, liaising with Chloe's school to make sure she is teaching what she would otherwise be missing. Today the subject happens to be biology. Bianca sets up a MacBook on Chloe's bed to show her a video about the heart that her classmates are watching in her hometown of Borehamwood, Hertfordshire. Sitting cross-legged in her bed, stuffed animals at her feet and syringes and medical apparatus behind her, for the one-hour lesson Chloe is completely absorbed. She listens to her heartbeat with a stethoscope, then walks around the ward to understand how heart rate changes with exercise.

5

⑦ Given how unwell the patients are, does a child ever suddenly have a medical emergency in class? Rarely, Franklin says: "The wards are good at identifying who's well enough to come to school. Usually in a ward lesson a doctor will come and do their checks and get involved with the discussion on the Ancient Greeks or photosynthesis." They have even devised innovative methods of reducing infection. "If a child's in isolation and we're not allowed in to see them, they can Skype into lessons with an iPad."

⑧ School gives families a healing element of ordinary life in what can be an institutional world of sickness. A 13-year-old in-patient who has had kidney disease and is nearing the end of her third stint in hospital tells me: "I come to the classroom and talk to other people, which is nice rather than sitting in bed

all day doing nothing and feeling too warm and sticky. And my mum can go and do the shopping she needs to. At the moment, on steroids, I get stressed a lot and coming here I feel I can relax.”

6

⑨ I watch a lively nine-year-old boy reading a book about pirates with his teacher in the kidney ward, while two nurses adjust his dialysis machine. The juxtaposition<sup>#3</sup> is extraordinary. The boy is covered in heavy-duty medical equipment and there are screams from the next bed, but he’s happily engaged with his teacher, and then greets Woof, a dog who trots into the ward every Tuesday.

⑩ The school teaches about 1,300 children each year, but only 90 to 120 are seen on any one day, with numbers and faces constantly changing; a class could have 1 or 15 pupils on different days. At the moment the London College of Fashion is visiting every week to work on a project with the children; other visitors have included the National Portrait Gallery and the Theatre Royal Haymarket.

⑪ Franklin took over as headmistress in 2011, after working in a primary school. The school started with just one teacher in 1951 and now has 15. Franklin wants to get funding for nursery-age children as well as the current 4 to 18-year-olds. “One-to-one teaching is very expensive, so funding’s a real issue.”

7

⑫ I end my visit meeting Johnathan, a six-year-old from Milton Keynes, Buckinghamshire, who spent a full year living at the hospital. He had an immune disorder called chronic granulomatous disease, which made him extremely ill. A bone marrow transplant cured the problem, but complications followed with his heart, which meant more surgery.

8

⑬ Johnathan is now an outpatient, but cannot start mainstream school until

December because his cells are still building up immunity from infection. His father says: “The hospital was our second home. The only thing Johnathan liked about hospital was school and his teacher, Kate. When we left hospital he was upset; she had a cold so he couldn’t say goodbye to her.” He still regularly talks to Kate using Apple’s FaceTime.

注1 : GCSEs General Certificate of Secondary Education(イングランドなどで大学入学試験にも使われる)全国統一試験制度

注2 : cystic fibrosis 嚢胞性線維症

注3 : juxtaposition 並列, 並置

出典 : Gordon, O. (2013). *The Times*. UK & European news. In association with The Yomiuri Shimbun. *The Japan News*, Edition S. November 10, 2013.

問 1 英文の内容に合うように、(1)~(7)の各文の空所を補うものとして最も適したものをそれぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) The word collage in paragraph ② is closest in meaning to \_\_\_\_\_.

1. collection
2. file
3. shape
4. memory

(2) Paragraph ② implies that \_\_\_\_\_.

1. the school is privately owned by teachers
2. the school has a good reputation for high-quality education
3. public schools send their teachers to this school
4. teachers are allowed to teach a limited range of subjects

- (3) The word pro<sup>(b)</sup>wess in paragraph ③ is closest in meaning to \_\_\_\_\_.
1. beauty
  2. attractiveness
  3. ability
  4. establishment
- (4) Paragraph ⑥ mentions that Chloe listens to her heartbeat because the author wanted to suggest that Chloe \_\_\_\_\_.
1. wants to be a doctor
  2. has a kidney disease
  3. is one of the participants in the research
  4. learns the subject in a way related to her life
- (5) Paragraph ⑧ talks about a 13-year-old in-patient to give an example of \_\_\_\_\_ aspects of the school.
1. friendly
  2. healing
  3. ordinary
  4. institutional
- (6) Faces constantly changing in paragraph ⑩ means \_\_\_\_\_.
- (c)
1. students come and go frequently
  2. students become more mature
  3. the school atmosphere changes dramatically
  4. there are many short-term visitors

(7) One of the problems that the school faces is \_\_\_\_\_.

1. providing appropriate learning materials
2. obtaining sufficient funds
3. attracting many students to study
4. having to say good bye to many students

問 2 次の段落([A]と[B])は文中の 

1
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8
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 で示したいずれかの位置に入る。最も適した場所を選択肢 1 ~ 4の中から選びなさい。

(1)[A] “Her school friends send her cards and visit, but it is difficult trying to keep her occupied,” her mother Tasha says. Yet the brisk ordinariness of school provides some relief: “Chloe loves having the one-to-one teaching, she’s never said ‘I don’t want Bianca to come today’.” Chloe agrees: “I prefer my school at home because of my friends. But school here really helps.”

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(2)[B] The social and psychological benefits are enormous, agrees Dr Jon Goldin, head of the hospital’s mental health unit, where the average length of stay for problems such as eating disorders is five months. “School helps keep their mind alive, keeps them active and keeps them interested,” he says.

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問 3 文の内容に合うように、(1)~(3)の質問に対する答えとして最も適したものをそれぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) What is true about this passage?

1. Pupils need to be healthy enough to walk to classroom to attend school.
2. Pupils can start to study at this school, several days after being admitted to the hospital.
3. Teachers can predict the number of students attending their classes on a day.
4. Teachers accept in class their former students who left hospital and want to study.

(2) Who enjoyed the school life and still talks to his or her former teacher?

1. Jayne
2. Bianca
3. Johnathan
4. Kate

(3) What is the best title of this passage?

1. You can select the place where you learn.
2. You can learn about diseases at this school.
3. Children wait for permissions from doctors to attend this school.
4. Children love to be taught here, but first they have to be ill.

Ⅲ 次の英文を読み、下記の設問に答えなさい。

① For decades, humans have built rovers to visit places we can't easily reach, including the moon and Mars. Now scientists have built a rover to explore another challenging target: colonies of adorable penguins.

② A team led by scientists from the University of Strasbourg in France has built a rover that looks like a fluffy penguin chick, allowing it to sneak around Antarctic colonies and get close to individual birds without ruffling too many feathers along the way.

1

③ “They made a major advance in being able to remotely identify and monitor penguins in the colony,” said Paul Ponganis, a research physiologist at the Scripps Institution of Oceanography at UC San Diego, who wasn't involved in the study. “It's a really clever idea.”

2

④ When humans try to collect the data carried by their animal subjects, their very presence can alter it. Animals' heart rates go up, their stress level rises, and they react in alarm. Those reactions can have negative consequences for the animals as well as the scientists who study them.

3

⑤ Unfortunately, human researchers usually have to get close enough—often within 2 feet—to pick up the radio signal from data-collecting devices placed beneath the animals' skin. If they want the data, they have to disturb the creatures wearing the devices.

4

⑥ A possible solution: send in a wheeled robot to do the work.

⑦ “You can see where with a robotic device like this, observations could be made with less disturbance—or certainly getting farther into the colony than you otherwise would be able to without disturbing birds,” said Ponganis, who



studies penguins' diving behavior.

- ⑧ So the French researchers set to prove the rover's worth.
- ⑨ In Antarctica, the scientists tested the reactions of king penguins on Possession Island.
- ⑩ A penguin who feels threatened can shuffle away even while keeping its egg or baby chick balanced on its feet.
- ⑪ When approached by a rover consisting of a platform and four wheels, penguins moved an average of about 3 inches. But when humans approached, the birds moved a hopping 17 inches.
- ⑫ On top of that, the penguins' movements pushed them into the space of other nearby penguins. Since king penguins can be territorial, the disturbance would ripple through the colony, resulting in fights and chaos for many rows beyond the target bird's area.
- ⑬ The researchers also found that a human who invaded a penguin's personal space caused the bird's heart rate to jack up much higher than the rover did. The effect from the human encounter lasted much longer, too.
- ⑭ "Human approaches led to an excess in [heart rate] approximately four times larger than that due to rover approaches," the French scientists reported.
- ⑮ So the rover, though not perfect, was a marked improvement on many levels—a finding echoed by additional rover tests among a population of emperor penguins within Antarctica's Adelie Land.
- ⑯ Emperor penguins are less territorial than the king penguins, and of the 158 birds tested, 28% "reacted with alertness," 47% didn't seem to react at all, and 25% appeared to be curious enough to come closer and check the rover out.

- ⑰ "When the rover was camouflaged with a penguin model, all adult and chick emperor penguins allowed it to approach close enough for an electronic

identification,” the study authors wrote.

6

- ⑱ “Chicks and adults were even heard vocalizing at the camouflaged rover, and it was able to infiltrate a creche<sup>注1</sup> without disturbance.”

7

- ⑲ Finally, the researchers tried their rover out on elephant seals<sup>注2</sup>, who didn’t budge<sup>注3</sup> when a rover came close to their heads or tails (which is where they’re usually tagged). That was a good sign; as a rule, an elephant seal does not react kindly to someone approaching its backside.

8

- ⑳ Such robots could be used to investigate the lives of all kinds of animals without disturbing them the way a human scientist’s presence would, the study authors wrote.
- ㉑ They could also help scientists conduct research beyond simply identifying radio-tagged individuals, Ponganis said.
- ㉒ “For observational studies, you could have all types of cameras mounted to take photos for various purposes,” he said.
- ㉓ Future rovers could even go beyond wheels. The French researchers imagined robots capable of tracking swimming and flying critters, too.

注 1 : infiltrate a creche 託児所に潜入する

注 2 : elephant seals ソウアザラシ

注 3 : budge 身動きする

出典 : Khan, A. (2014). *Los Angeles Times*. World report. A special section produced in cooperation with The Yomiuri Shimbun. *The Japan News*, Edition S. November 17, 2014.

問 1 英文の内容に合うように、(1)~(6)の各文の空所を補うものとして最も適したものをそれぞれ選択肢 1 ~ 4 の中から選びなさい。

- (1) The word rovers in paragraph ① is closest in meaning to machines that \_\_\_\_\_.
- (a)
1. precisely function
  2. secretly move
  3. wander around
  4. videotape targets
- (2) The word colonies in paragraph ① is closest in meaning to \_\_\_\_\_.
- (b)
1. behaviors
  2. groups
  3. habits
  4. mysteries
- (3) Paragraphs ④ and ⑤ suggest that researchers \_\_\_\_\_.
1. wanted to know how their appearances affect penguins
  2. are permitted to attach the machine to penguin legs
  3. had to go close to penguins to gather data
  4. train some penguins to collect materials
- (4) Close contacts with researchers do NOT lead to penguins \_\_\_\_\_.
1. having faster heartbeat
  2. feeling stronger stress
  3. disturbing other nearby penguins
  4. attacking risk-posing objects

(5) Researchers imagine that a future robot version of research devices could \_\_\_\_\_.

1. put tags on targets
2. choose useful pictures
3. move on land and in water
4. follow animals invisibly

(6) The title of this passage is “\_\_\_\_\_.”

1. Study without the stress
2. Innovative advances in animal medicine
3. Penguins welcome new species
4. Four-wheeled cars are effective tools for life

問 2 次の段落([A]と[B])は文中の  ~  で示したいずれかの位置に入る。最も適した場所を選択肢 1 ~ 4 の中から選びなさい。

(1)[A] The findings, described this month in the journal Nature Methods, show that when studying animals in the wild, it's often better for humans to stay out of the way and let robots do the work.

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| 1. | <input type="text" value="1"/> | 2. | <input type="text" value="2"/> |
| 3. | <input type="text" value="3"/> | 4. | <input type="text" value="4"/> |

(2)[B] There, the scientists also tested a more penguin-friendly version of their rover — one that looked like a fuzzy chick on wheels. This adorable robotic spy was even more successful than its bare-bones predecessor.

- |    |                                |    |                                |
|----|--------------------------------|----|--------------------------------|
| 1. | <input type="text" value="5"/> | 2. | <input type="text" value="6"/> |
| 3. | <input type="text" value="7"/> | 4. | <input type="text" value="8"/> |

IV 次の英文を読み、下記の設問に答えなさい。

① A Two new studies published in *the New England Journal of Medicine* provide further evidence that immunotherapy — the use of drugs to stimulate immune response — is highly effective against the disease.

② Recently presented at the 2015 American Society for Clinical Oncology annual meeting, one study revealed that a drug combination of ipilimumab and nivolumab (an immune therapy drug) reduced tumor<sup>註1</sup> size in almost 60% of individuals with advanced melanoma — the deadliest form of skin cancer — compared with (only 19% for)<sup>註2</sup> ipilimumab alone, while another study found nivolumab reduced the risk of lung cancer death by more than 40%.

③ Nivolumab is a drug already approved by the Food and Drug Administration (FDA) for the treatment of metastatic<sup>註3</sup> melanoma in patients who have not responded to ipilimumab or other medications. It is also approved for the treatment of non-small cell lung cancer (NSCLC) that has metastasized during or after chemotherapy<sup>註4</sup>.

④ According to cancer experts, however, the results of these latest studies indicate that nivolumab and other immune therapy drugs could one day become standard treatment for cancer, replacing chemotherapy.

1

⑤ Prof. Roy Herbst, chief of medical oncology at Yale Cancer Center in New Haven, CT, believes this could happen in the next 5 years. “I think we are seeing a paradigm shift in the way oncology is being treated,” he told *The Guardian*. “The potential for long-term survival, effective cure, is definitely there.”

Nivolumab plus ipilimumab reduced tumor size by at least a third for almost 1 year

- ⑥ Nivolumab belongs to a class of drugs known as “checkpoint inhibitors.” It works by blocking the activation of PD-L1 and PD-1 — proteins that help cancer cells hide from immune cells, avoiding attack.
- ⑦ In a phase 3 trial, Dr. Rene Gonzalez, of the University of Colorado Cancer Center, and colleagues tested the effectiveness of nivolumab combined with ipilimumab — a drug that stimulates immune cells to help fight cancer — or ipilimumab alone in 945 patients with advanced melanoma (stage III or stage IV) who had received no prior treatment.
- ⑧ While 19% of patients who received ipilimumab alone experienced a reduction in tumor size for a period of 2.5 months, the tumors of 58% of patients who received nivolumab plus ipilimumab reduced by at least a third for almost a year.
- ⑨ Commenting on these findings, study co-leader Dr. James Larkin, of the Royal Marsden Hospital in the UK, told BBC News: “By giving these drugs together you are effectively taking two brakes off the immune system rather than one, so the immune system is able to recognize tumors it wasn’t previously recognizing and react to that and destroy them.”

2

- ⑩ Dr. Gonzalez and colleagues also demonstrated the effectiveness of another immune therapy drug called pembrolizumab in patients with advanced melanoma.
- ⑪ While 16% of 179 patients treated with chemotherapy alone experienced no disease progression after 6 months, the team found that disease progression was halted for 36% of 361 patients treated with pembrolizumab after 6 months.  
(c)
- ⑫ Dr. Gonzalez notes that while a combination of nivolumab and ipilimumab shows greater efficacy against advanced melanoma than pembrolizumab, it

also presents greater toxicity<sup>135</sup>. Around 55% of patients treated with nivolumab plus ipilimumab had severe side effects, such as fatigue and colitis<sup>136</sup>, with around 36% of these patients discontinuing treatment.

⑬ Dr. Gonzalez says such treatment may be better for patients whose cancer does not involve overexpression<sup>137</sup> of the PD-L 1 protein.

⑭ “Maybe PD-L 1-negative patients will benefit most from the combination, whereas PD-L 1-positive patients could use a drug targeting that protein with equal efficacy and less toxicity,” he adds. “In metastatic melanoma, all patients and not just those who are PD-L 1-positive may benefit from pembrolizumab.”

3

### **Nivolumab almost doubled patient survival from NSCLC**

⑮ In another study, Dr. Julie Brahmer, director of the Thoracic Oncology Program at the Johns Hopkins Kimmel Cancer Center, and colleagues tested the effectiveness of nivolumab against standard chemotherapy with the drug docetaxel among 260 patients with NSCLC.

⑯ All patients had been treated for the disease previously, but the cancer had returned and spread.

⑰ The team found that patients who received nivolumab had longer overall survival than those treated with standard chemotherapy, at 9.2 months versus 6 months.

⑱ At 1 year after treatment, the researchers found nivolumab almost doubled patient survival. Around 42% of patients who received nivolumab were alive after 1 year, compared with only 24% of patients who received chemotherapy.

⑲ The study results also demonstrated a longer period of halted disease progression for patients who received nivolumab compared with those who had chemotherapy, at 3.5 months versus 2.8 months.

- ⑳ Overall, the researchers estimated that, compared with patients who received chemotherapy, those who received nivolumab were at 41% lower risk of death from NSCLC.

4

- ㉑ Commenting on these findings, Dr. Brahmer says: “This solidifies immunotherapy as a treatment option in lung cancer. In the 20 years that I’ve been in practice, I consider this a major milestone.”
- ㉒ While both studies show promise for the use of immunotherapy in cancer treatment, experts note that such treatment would be expensive. The use of nivolumab plus ipilimumab for the treatment of advanced melanoma, for example, would cost at least \$200,000 per patient.
- ㉓ As such, researchers say it is important that future research determines which cancer patients would be most likely to benefit from immunotherapy.

注1 : tumor 腫瘍

注2 : (only 19% for) 段落⑧をもとに補足した

注3 : metastatic 転移性の

注4 : chemotherapy 化学療法

注5 : toxicity 毒性

注6 : colitis 大腸炎

注7 : overexpression 過剰発現。ある物質が過剰に作られること

出典 : Whiteman, H. (2015). *Medical News Today*. June 3, 2015. Retrieved from <http://www.medicalnewstoday.com/articles/294737.php>



問 1 英文の内容に合うように、(1)～(3)の質問に対する答えとして最も適したものをそれぞれ選択肢 1～4の中から選びなさい。

(1) The word deadliest is in paragraph ②. Which of the following words <sup>(a)</sup> has the same meaning?

1. most widespread
2. most helpful
3. most dangerous
4. most recent

(2) The word replacing is in paragraph ④. Which of the following words <sup>(b)</sup> has the same meaning?

1. checking in
2. turning in
3. handing over
4. taking over

(3) The word halted is in paragraph ⑩. Which of the following words <sup>(c)</sup> has the same meaning?

1. released
2. supported
3. interrupted
4. promoted

問 2 英文の内容に合うように, (1)~(5)の各文の空所を補うものとして最も適したものをそれぞれ選択肢 1 ~ 4 の中から選びなさい。

(1) According to paragraph ③, the immune therapy drug nivolumab is usually used \_\_\_\_\_.

1. instead of chemotherapy
2. with folklore remedy
3. for clinical trials
4. as a second choice

(2) Nivolumab helps immune cells \_\_\_\_\_.

1. hide cancer cells
2. find cancer cells
3. stimulate cancer cells
4. avoid cancer cells

(3) Dr. Gonzalez pointed out that the combination of nivolumab and ipilimumab \_\_\_\_\_.

1. may cause patients serious side effects
2. is more effective than standard chemotherapy
3. should be the main treatment for melanoma
4. is as practical as other immune therapy drugs

(4) Dr. Brahmer and her colleagues concluded that patients who received \_\_\_\_\_.

1. chemotherapy had their cancer controlled better than those who received other treatments
2. nivolumab had a higher rate of their cancer returning than those who received chemotherapy
3. chemotherapy had more severe side effects than those who underwent immunotherapy
4. nivolumab had significantly longer survival than those who underwent chemotherapy

(5) A disadvantage of immunotherapy in cancer treatment is that it \_\_\_\_\_.

1. is effective only for a type of lung cancer
2. would take time to have it approved
3. would cost a large amount of money
4. is the major obstacle in treating melanoma

問 3 この文章の書き出しの文として  に入れるのに最も適したものを 1～4の中から選びなさい。

1. A “whole new world” for the American Society for Clinical Oncology has opened up.
2. A combination of two new drugs will stimulate patients, according to experts.
3. A new standard treatment for cancer has been approved by the government.
- Ⓐ 4. A “whole new era” for cancer treatment is upon us, according to experts.

問 4 次の段落は文中の  ~  で示したいず  
れかの位置に入る。最も適した場所を 1 ~ 4 の中から選びなさい。

“For immunotherapies, we’ve never seen tumor shrinkage rates over  
50% so that’s very significant to see. This is a treatment modality that I  
think is going to have a big future for the treatment of cancer.”

1.

2.

3.

4.

V 自由英作文問題

下記テーマについて、英語で自分の考えを述べなさい。書体は活字体でも筆記体でもよいが、解答は所定の範囲内に収めなさい。

Suppose you could go back in time two years (for example, if you are 18, you could go back to when you were 16). Please write in detail what you would like to do in this situation and give specific examples and reasons to support your idea. The writing will be evaluated from the viewpoint of both quantity and quality. The evaluation will also consider whether what you write is appropriate to the question.





