2024 年度　入学試験問題

数　　学

【注意事項】

1　係員の指示があるまで，問題冊子を開いてはいけません。

2　この問題冊子は，12 ページ，解答用紙は 4 枚あります。

3　落丁，乱丁，印刷の不鮮明な箇所などがあったときは，手を挙げて係員に申し出てください。

4　各解答用紙（4 枚）の受験番号欄に受験番号を数字で記入してください。

5　解答は必ず各問題別の解答用紙の所定の欄に記入してください。

6　問題冊子の余白等は適宜利用してかまいませんが，どのページも切り離してはいけません。

7　試験終了時刻まで退室してはいけません。

8　解答用紙は持ち帰ってはいけません。その他は持ち帰ってください。

1 以下の空欄をうめよ。

(1) $\displaystyle\int_{e^2}^{e^3}\frac{1}{x\log x}\,dx$　を求めると　□イ　である。

(2) $a,\ b$ を定数とする。$2x^3+3x^2+ax+b$ が $2x^2+5x-3$ で割り切れるとき，$a=$ □ロ ，$b=$ □ハ　である。

(3) $\left(\dfrac{8}{45}\right)^5$ を小数で表すと，小数第 □ニ 位にはじめて 0 でない数字が現れる。ただし，$\log_{10}2=0.3010,\ \log_{10}3=0.4771$ とする。

(4) $0\le x\le\pi$ のとき，関数 $y=\sin x\sin 2x$ の最大値は □ホ　であり，最小値は □ヘ　である。

(5) 座標空間内に 2 点 A$(-1,-4,5)$，B$(3,4,1)$ がある。xy 平面上の点 P が $\angle\mathrm{APB}=90^\circ$ を満たしながら動くとき，xy 平面上における点 P の軌跡の方程式は □ト　である。

(6) $\displaystyle\lim_{n\to\infty}\frac{1}{n^5}(1^4+2^4+3^4+\cdots+n^4)$　を求めると　□チ　である。

(7) $|z|=|w|=1$，$z+w=i$ を満たすような複素数 $z,\ w$ であって，z の実部が正であるものは □リ　である。ただし，i は虚数単位である。

(計 算 用 紙)

2 数列 $\{a_n\}$ が
$$a_1 = 4, \qquad a_{n+1} = \frac{3a_n - 1}{a_n + 1} \qquad (n = 1, 2, 3, \cdots)$$
で定められるとき，以下の問いに答えよ。

(1) $b_n = a_n - 1$ とおくとき，b_{n+1} を b_n の式で表せ。 ［ イ ］

(2) $c_n = \dfrac{1}{b_n}$ とおくとき，数列 $\{c_n\}$ の一般項を求めよ。 ［ ロ ］

(3) 数列 $\{a_n\}$ の一般項を求めよ。 ［ ハ ］

(計 算 用 紙)

3   1つの袋の中にXと書かれた玉，Yと書かれた玉，Zと書かれた玉が3個ずつ入っている。これに対して，次の試行を考える。

- サイコロを1回投げて，出た目が n のとき，袋から n 個の玉を取り出して袋にもどす。

ここで，座標空間内を動く点Pがはじめ原点Oにあり，この試行を行うたびに以下の規則に従って動くものとする。

- 試行の結果，Xと書かれた玉が a 個，Yと書かれた玉が b 個，Zと書かれた玉が c 個出たとき，Pは x 軸の正の向きに a，y 軸の正の向きに b，z 軸の正の向きに c だけ進む。

このとき，以下の問いに答えよ。

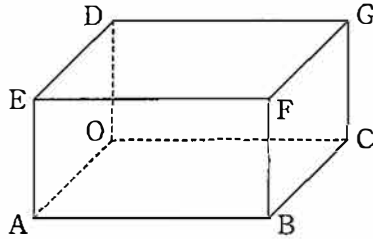(1) 試行を1回行った結果，Pが点 $(1，2，3)$ にある確率を求めよ。

イ

(2) 試行を4回繰り返した結果，Pが点 $(2，1，1)$ にある確率を求めよ。

ロ

(3) 試行を3回繰り返した結果，Pが点 $(2，1，1)$ にある確率を求めよ。

ハ

(計 算 用 紙)

4 直方体 OABC－DEFG があり，辺 AB を 3：2 に内分する点を L，辺 FG の中点を M，辺 BC を 1：2 に内分する点を P，辺 EF を 2：3 に内分する点を Q とする。$\overrightarrow{OA}=\vec{a}$, $\overrightarrow{OC}=\vec{c}$, $\overrightarrow{OD}=\vec{d}$ とおく。

このとき，以下の空欄をうめよ。

(1) $\overrightarrow{LM}$, $\overrightarrow{PQ}$ を $\vec{a}$, $\vec{c}$, $\vec{d}$ を用いて表すと，
$$\overrightarrow{LM}=\boxed{\quad イ \quad}\ ,\ \overrightarrow{PQ}=\boxed{\quad ロ \quad}\quad である。$$

(2) 実数 $t,\ u$（$0<t<1$, $0<u<1$）に対して，線分 LM を $t:(1-t)$ に内分する点を N，線分 PQ を $u:(1-u)$ に内分する点を R とする。点 N と点 R が一致するような $t,\ u$ を求めると，
$$t=\boxed{\quad ハ \quad}\ ,\ u=\boxed{\quad ニ \quad}\quad である。$$

(3) 線分 LM と線分 PQ の交点を T とするとき，$\overrightarrow{OT}$ を $\vec{a}$, $\vec{c}$, $\vec{d}$ を用いて表すと
$$\overrightarrow{OT}=\boxed{\quad ホ \quad}\quad である。$$

(4) OA＝6，OC＝5，OD＝1 とするとき，四角形 LPMQ の面積は $\boxed{\quad へ \quad}$ である。

（計 算 用 紙）

5 関数 $f(x) = e^{-x} \sin x$ を考える。曲線 $y = f(x)$ を C とする。このとき，以下の問いに答えよ。

(1) $0 \leqq x \leqq 2\pi$ において，$f(x)$ の増減，極値を調べて，増減表をかけ。その際，極大値，極小値を明確にかくこと。ただし，C の凹凸，変曲点は調べなくてよい。(結論に至る過程も記述すること。)

(2) n を自然数とする。$(n-1)\pi \leqq x \leqq n\pi$ において，C と x 軸で囲まれた部分を x 軸のまわりに 1 回転させてできる立体の体積 V_n を求めよ。

(3) (2)で定めた V_n に対し，$\displaystyle\sum_{n=1}^{\infty} V_n$ を求めよ。

(計 算 用 紙)

6 すべての自然数 n に対して，

$$a_n = 9 \cdot 2^{4n-1} + (-1)^{n-1} 5^n$$

はある共通の素数 p で割り切れる。そのような素数 p を推定し，それが正しいことを数学的帰納法を用いて証明せよ。

(計 算 用 紙)

2024 年度　入学試験問題

英　　語

【注意事項】

1　係員の指示があるまで，問題冊子を開いてはいけません。

2　この問題冊子は，35 ページあります。

3　落丁，乱丁，印刷の不鮮明な箇所などがあったときは，手を挙げて係員に申し出てください。

4　この試験問題の解答はマーク方式になっていますので，記入の際には次のことに十分注意してください。

①　ＨＢの黒鉛筆を使用し，右のマーク例を参考にして，ていねいに記入してください。

（マーク例）

良い例	悪い例
●	⊗ ⊠ ⓪ ⊖

②　訂正は，消しゴムできれいに消し，消しくずを残してはいけません。

③　所定の欄以外にはマークしたり，記入したりしてはいけません。

④　解答用紙を汚したり，折り曲げたりしてはいけません。

5　解答用紙には解答欄以外に次の記入欄がありますので，係員の指示に従って，それぞれ正しく記入し，マークしてください。

①　氏名欄

　　氏名及びフリガナを記入してください。

②　受験番号欄・受験番号マーク欄

　　受験番号を数字で記入し，さらにその下のマーク欄にマークしてください。

6　解答は，解答用紙の解答欄にマークしてください。例えば(20)と表示のある問いに対して（Ｃ）と解答する場合は，次の(例)のように問 20 の解答欄のＣにマークしてください。正しくマークされていない場合には，採点できないことがありますので注意してください。

（例）

解答番号	解　　答　　欄
(20)	Ⓐ　Ⓑ　●　Ⓓ

7　問題冊子の余白等は適宜利用してかまいませんが，どのページも切り離してはいけません。

8　試験終了時刻まで退室してはいけません。

9　解答用紙は持ち帰ってはいけません。その他は持ち帰ってください。

第 1 問　次の会話(1)〜(10)のそれぞれの空欄に入る最も適切なものを，(A)〜(D)の中から一つずつ選びなさい。

(1)　Person A: How about we meet up at 15:00 this Saturday?

Person B: _____

(A)　I should have done that.

(B)　Let's go by car.

(C)　What about Saturday?

(D)　Yeah, that works for me.

(2)　Person A: _____

Person B: I don't really feel like going out this weekend.

(A)　Did you feel any better?

(B)　How is it going?

(C)　Why didn't you come for the BBQ on Sunday?

(D)　Why don't we hang out on Saturday?

(3)　Person A: _____

Person B: Finally we've met!　I have heard a lot about you.

(A)　Did you hear about us?

(B)　Glad to meet you.

(C)　Long time no see!

(D)　When did we meet before?

(4)　Person A: How was your vacation?

Person B: _____

(A)　Couldn't have been any better!

(B)　It is nice to see you all.

(C)　I will go hiking.

(D)　What about a vacation?

(5) Person A: I really appreciate your help.

Person B: _____

(A) Don't bother.

(B) Glad that I could be of assistance.

(C) Much appreciated.

(D) Sure, I can help you.

(6) Manager: Why is the project getting so complicated?

Employee: _____

(A) I am certain that it will succeed.

(B) I am confident the project is getting complicated.

(C) I am not sure about the reasons.

(D) I have no reasons to fail.

(7) Policeman: Do you think the northern suburbs of the city need more night

patrols?

Citizen: Yes! _____

(A) Criminal activities have increased in other cities.

(B) It's better to live in the northern part of the city.

(C) That's definitely something we need.

(D) The petrol pumps are closed at night.

(8) Person A: I have three reports to finish and a presentation to prepare for

tomorrow.

Person B: _____

(A) Did you see the latest episode of that TV show last night?

(B) I can help with one of them, if you'd like.

(C) My weekend was really relaxing.

(D) You should try working slower.

(9) Person A: It's so hard to find a parking spot around here in the mornings.

Person B: _____.

(A) I heard there's a new parking lot being built soon.

(B) I usually don't take the bus to work.

(C) Maybe you shouldn't drive together with someone.

(D) There's a great restaurant that just opened nearby.

(10) Person A: Do you think it's better to book a hotel in the city center or one near the airport?

Person B: _____ :

(A) All depends on how much sightseeing you want to do.

(B) I love watching planes taking off.

(C) I usually pack light.

(D) Noise can be an issue.

第 2 問 次の英文(11)~(35)の下線部の本文中の意味に最も近いものを，それぞれ(A)~
(D)の中から一つずつ選びなさい。

(11) I <u>intend</u> to finish this project by the end of this month.

   (A) announce

   (B) ask

   (C) delay

   (D) plan

(12) The program offers opportunities to gain new <u>qualifications.</u>

   (A) competencies

   (B) contacts

   (C) ideas

   (D) perspectives

(13) The artist likes to <u>combine</u> different colors and textures in her paintings.

   (A) choose

   (B) emphasize

   (C) express

   (D) mix

(14) I spent <u>the entire</u> day at the library.

   (A) a boring

   (B) a productive

   (C) the remaining

   (D) the whole

(15) They constructed a massive ship.

(A) a beautifully designed

(B) an enormous

(C) a strong

(D) a technologically advanced

(16) The company plans to reduce carbon emissions.

(A) cope with

(B) cut down on

(C) produce

(D) reuse

(17) He hopes to gain some new experience.

(A) earn

(B) offer

(C) share

(D) start

(18) He had a strong desire to climb in the Himalayas.

(A) fear

(B) stamina

(C) tool

(D) wish

(19) The exam was administered in the morning.

(A) canceled

(B) decorated

(C) supervised

(D) transferred

(20) The technology is very sophisticated.

(A) advanced

(B) critical

(C) dangerous

(D) harmful

(21) The train conductor announced that the next stop was approaching.

(A) coming

(B) deducting

(C) paving

(D) timing

(22) The software is extremely difficult to use.

(A) exceptionally

(B) marginally

(C) narrowly

(D) tightly

(23) The hurricane caused destructive winds and floods.

(A) declining

(B) depressing

(C) deserving

(D) devastating

(24) The discovery of antibiotics had far-reaching consequences for public health.

(A) disastrous

(B) insignificant

(C) narrow

(D) profound

(25) I received <u>a notification</u> on my phone.

   (A) an announcement

   (B) a supplement

   (C) a justification

   (D) a modification

(26) Business studies courses provide students with <u>practical</u> skills and knowledge.

   (A) applicable

   (B) fast-paced

   (C) ineffective

   (D) tremendous

(27) The pilot adjusted the plane's <u>altitude</u> as it approached the airport.

   (A) depth

   (B) height

   (C) prestige

   (D) speed

(28) Despite her <u>hesitation</u>, she decided to join the new project team.

   (A) confirmation

   (B) enthusiasm

   (C) expansion

   (D) reluctance

(29) It was <u>evident</u> that the team had worked hard to prepare for the presentation.

(A) ambiguous

(B) hidden

(C) obvious

(D) restricted

(30) The knight's <u>cowardly</u> behavior during the battle disappointed the king.

(A) bold

(B) brave

(C) dangerous

(D) fearful

(31) Due to the economic crisis, there has been a significant <u>decline</u> in consumer spending.

(A) calming

(B) decrease

(C) improvement

(D) increase

(32) The sailor skillfully <u>navigated</u> the boat through the dangerous waters.

(A) assembled

(B) directed

(C) distributed

(D) examined

(33) It took her a few weeks to become familiar with her <u>surroundings</u>.

(A) apartment

(B) core

(C) edge

(D) environment

(34) The antique dealer determined that the painting was <u>priceless</u>.

(A) essential

(B) worthless

(C) useless

(D) valuable

(35) The conference featured a <u>panel</u> of experts discussing the latest advancements in renewable energy.

(A) course

(B) exhibit

(C) group

(D) meeting

第3問 次の英文(36)～(65)のそれぞれの空欄に入る最も適切なものを，(A)～(D)の中から一つずつ選びなさい。

(36) Can you _____ my dog while I am away for 2 weeks?

 (A) just look

 (B) look after

 (C) look before

 (D) look out

(37) The book is on the table _____ the lamp.

 (A) along

 (B) side

 (C) from

 (D) next to

(38) I went to the store _____ we bought some Christmas decorations last year.

 (A) that

 (B) there

 (C) where

 (D) which

(39) How _____ to offer to help!

 (A) are you kind

 (B) kind for you

 (C) kind of you

 (D) you kind for

(40) This is _____ pizza I've ever had.

    (A) biggest

    (B) most big

    (C) the biggest

    (D) the most biggest

(41) _____ seats were taken.

    (A) All of the

    (B) Almost the

    (C) Any of the

    (D) Every

(42) I made my little sister _____ her room.

    (A) clean

    (B) cleaned

    (C) cleaning

    (D) to clean

(43) My son wants to learn how _____ the piano.

    (A) he plays

    (B) play

    (C) playing

    (D) to play

(44) Ben said that he never _____ a pet.

    (A) had

    (B) has

    (C) have

    (D) having

(45) Jenny has a sore leg. She hurt _____ while playing tennis.

(A) hear

(B) her

(C) herself

(D) herselves

(46) _____ book is about two friends who went on a journey.

(A) A

(B) There

(C) These

(D) This

(47) _____ you exercise regularly, you won't be able to stay healthy.

(A) Despite

(B) Nevertheless

(C) So

(D) Unless

(48) He _____ me that the meeting had been postponed until next week.

(A) could have inform

(B) informed

(C) informing

(D) was informed

(49) I _____ consider all of your options.

(A) want you to

(B) wanted you

(C) wanting to

(D) wanting you

(50) I think you should _____ for a run in the stadium.

(A) go

(B) going

(C) wanted to go

(D) went

(51) _____ sun was setting over the mountains.

(A) An

(B) All

(C) The

(D) Those

(52) _____ clouds in the sky are a sign that it might rain later today.

(A) That

(B) That all

(C) Those

(D) Those all

(53) The hotel room with a view of the ocean _____ more expensive than the one facing the streets.

(A) is not very

(B) supposed to be

(C) was

(D) was to

(54) It usually _____ about 30 minutes to get to work by car.

(A) take

(B) taken me

(C) takes me

(D) taking me

(55) _____ born in a different country, my life might have turned out very differently.

(A) Had I being

(B) If I been

(C) If I had been

(D) If I had to

(56) She couldn't help but feel curious _____ the strange noises coming from the abandoned house.

(A) about

(B) for

(C) in

(D) with

(57) We should _____ the meeting now, as we have covered all the important points.

(A) wrap in

(B) wrap up

(C) wrapped in

(D) wrapped up

(58) _____ students in the class have already completed the assignment.

(A) Few of that

(B) Little

(C) Some of that

(D) Some of the

(59) The hotel room _____ every day by the housekeeping staff.

(A) cleaned

(B) cleans

(C) is cleaned

(D) is cleaning

(60) When I arrived at the party, everyone was already _____.

(A) leave

(B) leaved

(C) leaving
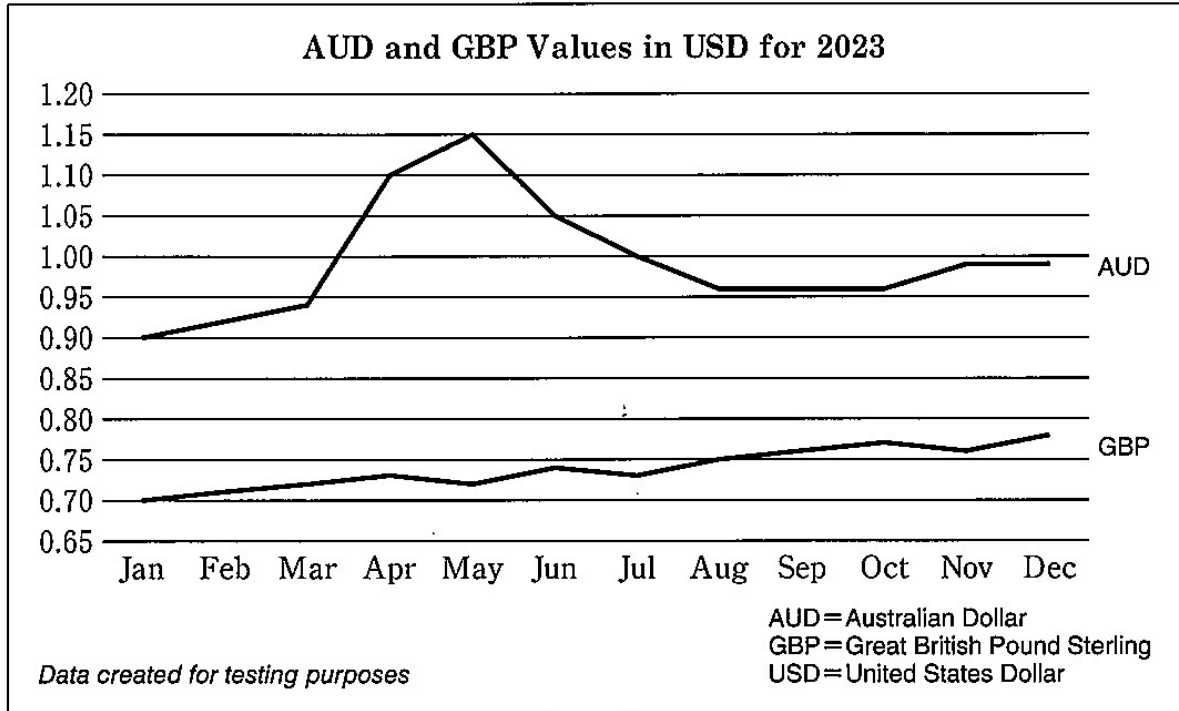
(D) left

(61) I am going _____ vacation next week.

(A) at

(B) in

(C) on

(D) to

(62) She sings _____ than her sister.

(A) best

(B) better

(C) good

(D) well

(63) After he _____ , he realized he had forgotten his phone at home.

(A) had left

(B) has left

(C) leaves

(D) leaving

(64) You _____ ask for permission before leaving the classroom.

(A) can be

(B) could have

(C) maybe

(D) must

(65) She is afraid _____ spiders.

(A) about

(B) from

(C) of

(D) with

第 4 問 次の図表とその図表についての 2 人の対話を読んで，問い66〜86について

最も適切な答えを，(A)〜(D)の中から一つずつ選びなさい。

AUD and GBP Values in USD for 2023

AUD＝Australian Dollar
GBP＝Great British Pound Sterling
USD＝United States Dollar

Data created for testing purposes

All data and graphics created for examination purposes.

Sam	:	What do these currency values mean?

Sam   : What do these currency values mean?

Prof. Scott: They are the values against a base currency, in this case US dollars.

Sam   : So, the US dollar was worth 90 cents in January?

Prof. Scott: (a) No, it means that one Australian dollar could buy you 0.9 of a US dollar back <u>then</u>.

Sam   : I see, so if I had some Australian dollars, a good time to buy US dollars would have been ___(1)___ .

Prof. Scott: Yes, that's correct.

Sam   : So, what causes the value of a country's currency to change?

Prof. Scott: Well, when ___(2)___ a currency increases, its value increases because there is less of it available for purchase.

Sam   : So, what causes a currency to become more popular?

Prof. Scott: There is no single cause, but a common reason is big companies doing business in different countries.

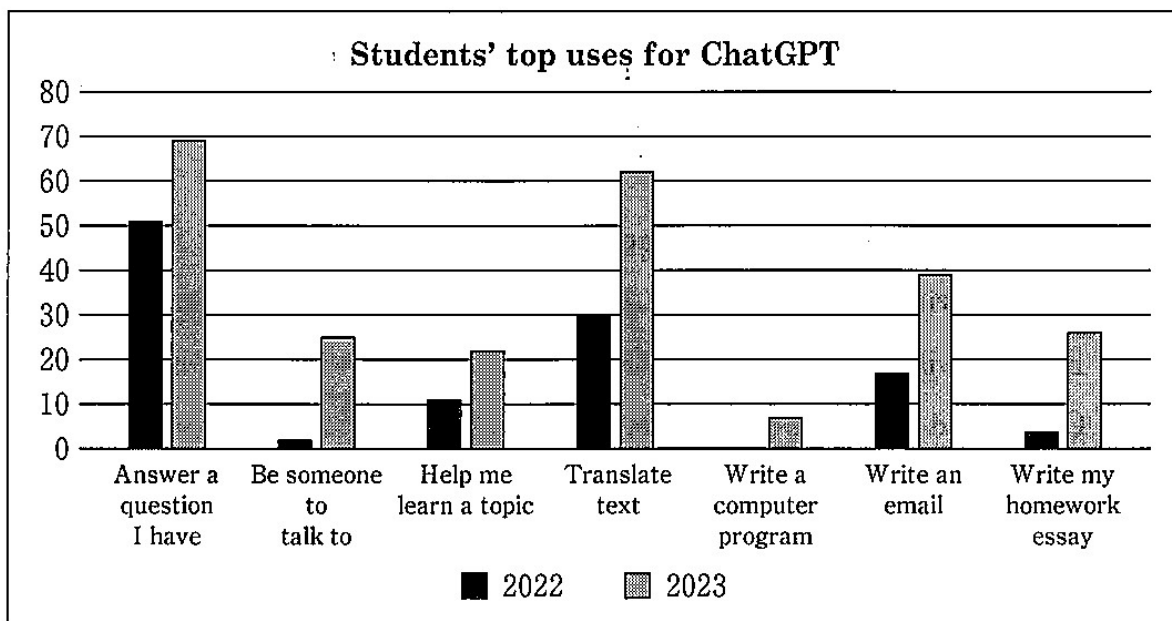Sam   : Like when Japanese car makers make and sell cars in America.

Prof. Scott: Yes. To do this, they need to change their money from Japanese yen to US dollars. ___(3)___ they need to buy US dollars. When a Japanese company does this, it means US dollars become more popular and there are fewer available.

Sam   : I see. The GBP rose slowly and steadily throughout most of 2023.

Prof. Scott: Yes, that was unexpected. However, I think the ___(4)___ .

(66) In sentence (a), then refers to?

(A) August 2023

(B) January 2023

(C) January, August and September 2023

(D) September 2023

(67) Which of the following is most appropriate for (2)?

(A) access to

(B) availability of

(C) demand for

(D) supply of

(68) Which of the following is NOT correct?

(A) Before the conversation, Sam understood why currency values may change.

(B) Currencies change value for many different reasons.

(C) International companies can influence currency values.

(D) The AUD was worth less than the USD in January.

(69) Which expression would Prof. Scott most likely say at (3)?

(A) Even so,

(B) However,

(C) In other words,

(D) On the other hand,

(70) Which of the following is most appropriate for (1)?

(A) January

(B) March

(C) May

(D) October

(71) Which of the following is implied by the text and graph for 2023?

(A) Both the AUD and USD were worth less in December than in January.

(B) Both the AUD and USD were worth more in December than in January.

(C) The USD was worth less in December than in January.

(D) The USD was worth more in December than in January.

(72) Which of the following is most appropriate for (4)?

(A) GBP will be less stable in 2024.

(B) GBP will continue to be stable in 2024.

(C) US and AUD will decrease in value in 2024.

(D) US and AUD will increase in value in 2024.

Students' top uses for ChatGPT

Bar chart comparing 2022 and 2023.

Use	2022	2023
Answer a question I have	51	69
Be someone to talk to	2	25
Help me learn a topic	11	22
Translate text	30	62
Write a computer program	0	7
Write an email	17	39
Write my homework essay	4	26

All data and graphics created for examination purposes.

Maria: Hey Emi, look at this graph I made. I asked 150 students at my university how they use ChatGPT. They had seven choices and could choose as many of them as they wanted.

Emi : Really? ChatGPT, the AI tool? Let me see.

Maria: It clearly shows how students are finding value in this technology.

Emi : That's just because it's been in the news a lot lately.

Maria: This AI is capable of handling a wide variety of tasks.

Emi : (a) But at what cost? It might be able to perform some tasks, but jobs are being lost and people are becoming more isolated.

Maria: I understand your concern, but AI tools can handle boring tasks, freeing people to focus on more exciting work.

Emi : I can see that argument, but what about people becoming lonelier? Shouldn't we value human communication more?

Maria: Absolutely, that's important, but consider this: AI applications can be good for some people's mental health, providing support where it might otherwise be lacking.

Emi : (b) I guess you're right, according to your graph. But don't forget about privacy and data security — those are essential.

Maria: That's a fair point. It's important for the companies behind these AIs to be careful and have clear data storage policies.
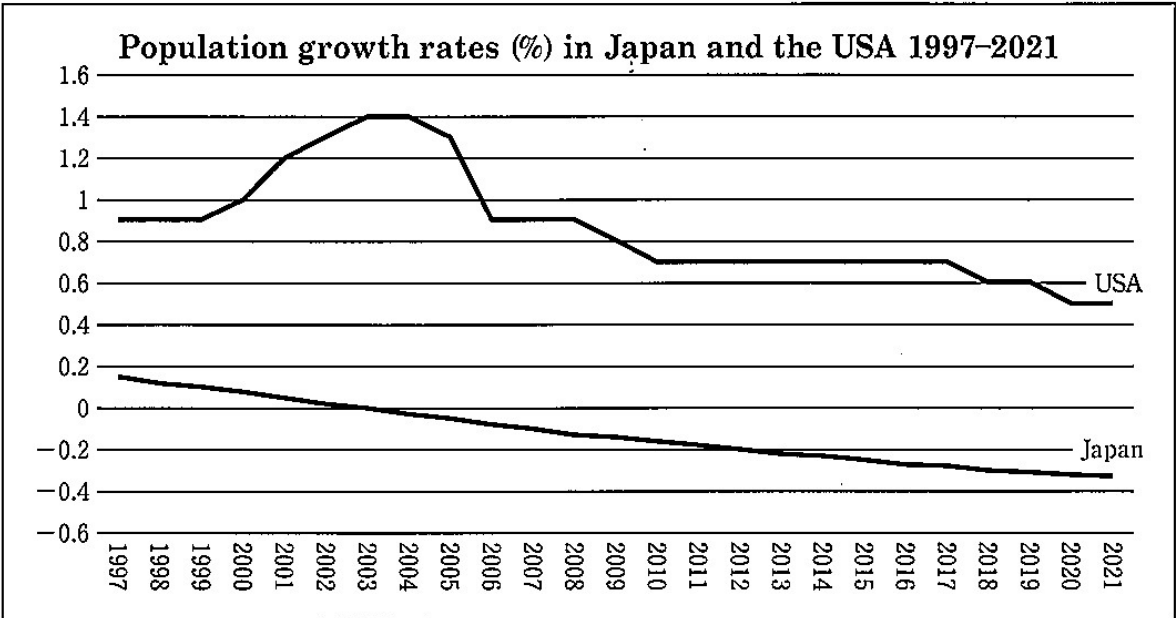
Emi : (c) Yes. Another thing is the increase in the number of students using ChatGPT to cheat. We really should consider the consequences.

Maria: That's why discussions like these are important. We all need to talk about how we use and control ChatGPT.

Emi :   (1)

(73) Which of the following statements is true?

(A) "Answer a question I have" was more commonly used in 2022 than in 2023.

(B) "Help me learn a topic" was the 4th most common use in 2022, but the 6th most common use in 2023.

(C) "Write an email" had the smallest increase from 2022 to 2023.

(D) Only a few students chose "write a computer program" in 2022.

(74) In sentence (a), what "cost" is Emi talking about?

(A) the amount of money you have to pay to use ChatGPT

(B) the difficulty of learning how to use ChatGPT

(C) the loss of AI jobs

(D) the negative effects of ChatGPT

(75) What benefit of ChatGPT is NOT mentioned by Maria in her conversation with Emi?

(A) its ability to answer medical questions

(B) its ability to do many different things

(C) its ability to help people who have mental health issues

(D) its ability to save us from doing dull tasks

(76) Which sentence would Emi most likely say at (1)?

(A) I agree. Let's use ChatGPT more and more.

(B) I disagree. We should all be allowed to use ChatGPT however we want.

(C) No, I believe that enough has been said already.

(D) Yes, everyone should give their opinions and rules should be created.

(77) What are the numbers from 0 to 80 on the left side of the graph?

(A) the change in percentage of uses of ChatGPT

(B) the number of students who selected a certain use of ChatGPT

(C) the number of times per year a student used ChatGPT

(D) the percentage of users of ChatGPT

(78) In sentence (b), what information in the graph is Emi talking about when she says "I guess you're right, according to your graph"?

(A) the large increase in students using ChatGPT as "someone to talk to"

(B) the large increase in students using ChatGPT to "write an email"

(C) the low value for "write a computer program"

(D) the number of students who used ChatGPT for support helping them "learn a topic"

(79) In sentence (C), when Emi says "to cheat", what part of the graph is she probably referring to?

(A) the 2022 value of "write a computer program"

(B) the 2023 value of "translate text"

(C) the difference between 2022 and 2023 in "write my homework essay"

(D) the difference bewteen 2022 and 2023 in "help me learn a topic"

Population growth rates (%) in Japan and the USA 1997–2021

| 1.6 |
| 1.4 |
| 1.2 |
| 1 |
| 0.8 |
| 0.6 |
| 0.4 |
| 0.2 |
| 0 |
| −0.2 |
| −0.4 |
| −0.6 |

USA

Japan

1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

All data and graphics created for examination purposes.

Teacher: Hey Alex, what did you find out?

Alex : I've been looking at the data, and it seems like Japan's population growth rate has been low for a long time, but the USA's growth rate has been higher. Does this mean that people are leaving Japan and moving to the USA?

Teacher: The data are actually about natural population growth — the difference between births and deaths in a country.

Alex : So why is Japan's population going down?

Teacher: Because of low birth rates. Fewer children are being born in recent years, compared with before. This often happens when a country becomes richer.

Alex : I see.

Teacher: Many countries will have this problem too, though Japan is ___(1)___ it sooner than most.

Alex : Is that the only reason?

Teacher: Another factor might be because of people overworking and feeling too stressed to have a family.

Alex : But doesn't the USA have this problem?

Teacher: The USA's growth rate is decreasing too, though a strange thing happened to the rate in the 2000s, because of people entering the country.

Alex : So it's an issue affecting not only Japan.

Teacher: (a) That's right. Do you think anything negative might happen because of these trends?

Alex : There may be fewer workers paying taxes, which will be difficult for the government.

Teacher: That's right. A lower birth rate could affect schools, housing, and even consumer markets, as there will be fewer young people to buy things.

Alex : So, what can governments do?

Teacher: They can encourage people to have more children by supporting family life more. They could also try to make jobs more flexible to help parents look after their children more easily.

(80) In sentence (a), what does <u>these trends</u> refer to?

    (A) jobs becoming more flexible to help parents look after their children

    (B) people moving from Japan to the USA

    (C) population growth rates in Japan and the USA

    (D) the Japanese government encouraging people to have more children

(81) Which of the following is true, according to the graph?

    (A) Both countries have negative growth rates.

    (B) Both countries have positive growth rates, but slowing.

    (C) Both countries have declining growth rates.

    (D) Both countries' growth rates are below zero.

(82) Which of the following is NOT said in the conversation?

    (A) Japan is an early country to have negative growth rates.

    (B) Japan's population problem is the worst among all countries.

    (C) There are several reasons why population growth rates are going down.

    (D) There are things governments can do to address growth rates.

(83) Which of the following is most appropriate for (1)?

    (A) bringing

    (B) doing

    (C) experiencing

    (D) solving

(84) Why are people in Japan having fewer children?

    (A) People do not have enough money to have children.

    (B) The country has less money.

    (C) The birth rate is decreasing.

    (D) None of the above.

(85) Which one of the following sentences is the best summary of the conversation?

(A) Declining growth rates are a problem for the USA and Japan, but we can take action.

(B) Japan can learn from the USA's population success and make having children cheaper.

(C) The USA and Japan's population problems will get worse in the near future.

(D) The USA can learn from Japan's population problems.

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(86) What happened to the USA's growth rate in the early 2000s, and why?

(A) It went up for a short time because of immigration.

(B) The gradual decline continued declining because of fewer babies.

(C) The growth rate stopped for a short time because of immigration.

(D) There was a negative growth rate, as many people left the country.

第５問 次の英文を読んで，(87)～(91)・(92)～(96)のそれぞれの空欄に入る最も適切なものを，(A)～(D)の中から一つずつ選びなさい。また，問い(97)～(101)・(102)～(106)について，英文の内容から最も適切な答えを，(A)～(D)の中から一つずつ選びなさい。

この部分に掲載されている文章については、著作権上の問題から公表することができません。

:

(87) (A)　answered

(B)　created

(C)　spoke

(D)　targeted

(88) (A)　kind

(B)　moment

(C)　range

(D)　type

(89) (A)　discovery

(B)　profession

(C)　question

(D)　technology

(90) (A) distant

(B) significant

(C) thoughtful

(D) uniform

(91) (A) remaining

(B) renovating

(C) requiring

(D) respecting

(92) Which sentence is supported by the text?

(A) The author feels happy that the G7 meeting will happen.

(B) The author hopes AI will be used by many people.

(C) The author wants Japan to build agreement on AI at the G7.

(D) The author wants the G7 leaders to stop AI.

(93) Which of the following best describes the main purpose of this text?

(A) to describe democratic values and show why they are useful

(B) to investigate statements from the G7 meeting about ChatGPT

(C) to report the news of a government meeting about AI

(D) to warn of AI's dangers and recommend ways of making it safer

(94) In paragraph 4, what does the word <u>key</u> mean?

(A) pitch

(B) important

(C) surprising

(D) solution

(95) What does the author recommend G7 do about AI?

(A) have more debates about managing AI

(B) make clear rules for the use of AI

(C) continue putting pressure on technology companies

(D) all of the above

(96) What kind of information could best be added to the text after the last paragraph?

(A) examples of social changes that may be caused by AI

(B) news about technology companies

(C) personal stories about conversations with an AI chatbot

(D) the story of how Japan became a G7 member

One of the most famous images of Japan around the world is Mt. Fuji, Japan's highest mountain. Standing at 3,776 meters (12,388 feet) above sea level, with smooth triangular sides and a flat top which is often ___(97)___ with snow, this volcano is a popular image in art and on souvenirs. It is a popular place for hiking, and many hikers from Japan and overseas come to Mt. Fuji to test their strength. Many people have happy ___(98)___ of Mt. Fuji, but it is also a place full of dangers, so it is important for hikers to be well prepared.

Those who plan to hike Mt. Fuji can benefit from reading the stories of people who have hiked it before. It is common for people to have trouble with the weather, which can change quickly on a high mountain. A warm sunny day can turn wet, ___(99)___ and cold in minutes, so it is essential to bring the right equipment. Strong boots and hiking socks are good for protecting feet and ankles. The rocks on Mt. Fuji are sharp, so street shoes will not be strong enough. Because the weather can change quickly, it is useful to have layers of clothes that are easy to put on and take off quickly. Thin layers next to the body can keep a person cool in hot weather conditions. Warm thick layers can stop body heat from escaping in colder times. Waterproof outer layers are important for rain ___(100)___.

Because it is easy to lose the trail, it is useful to have some basic pieces of gear like a map and compass, as well as a headlamp to help find the way in the dark. It is very easy to fall on the steep ground of the upper mountain, and the right equipment can prevent injuries. Finally, hikers should prepare themselves well for the physical challenge of hiking a big mountain. Many people choose to take a bus and begin hiking from the sixth of the mountain's nine stations, which are historical stopping points. This approach can ___(101)___ time, but it also means that hikers climb to a high altitude very quickly. A safer plan may be to start from the base of the mountain and hike up slowly.

(97) (A) built

(B) covered

(C) decorated

(D) prepared

(98) (A) memories

(B) travels

(C) visits

(D) walks

(99) (A) curvy

(B) jumpy

(C) lovely

(D) windy

(100) (A) inflation

(B) invitation

(C) protection

(D) suspension

(101) (A) have

(B) open

(C) save

(D) share

(102) Which of the following statements is supported by the text in paragraph 1?

(A) A mountain's height is measured from sea level.

(B) Mt. Fuji has a triangular top and flat sides.

(C) Mt. Fuji is the highest mountain in Asia.

(D) There are over three meters in one foot.

(103) In paragraph 2, what does the word <u>times</u> mean?

(A) length

(B) frequency

(C) year

(D) temperature

(104) Where does the text recommend that hikers wear waterproof layers?

(A) below all other layers

(B) between thin and warm layers

(C) over all other layers

(D) under warm layers

(105) Which sentence can he added after the last sentence in the text?

(A) A hiker who prepares well will always have a good experience on Mt. Fuji.

(B) It is not necessary to buy special equipment to hike Mt. Fuji.

(C) Maps and compasses will protect hikers from rain and cold and reduce the amount of clothing needed.

(D) This takes more time and effort, but it allows hikers to adjust to the thin air more slowly and safely.

(106) Which of the following sentences best summarizes the text?

(A) Everyone should hike Mt. Fuji from the ninth station.

(B) Mt. Fuji is a safe mountain which is good for happy memories.

(C) Preparing the right equipment can help people be safer when hiking Mt. Fuji.

(D) Some hikers are not well prepared, but they can have fun.