（令 8 志理）　総 合 問 題 Ⅰ

（問題部分 1～11）

注意事項

（1）使用できるもの：黒鉛筆・シャープペンシル・プラスチック製の消しゴム・小型鉛筆削り、時計等「受験者心得」で指示したもの。

（2）受験番号欄は各答案用紙の解答欄と評点欄の2か所、氏名欄は解答欄に1か所あります。受験番号は5けたの数字を枠内に1字ずつ明確に記入してください。

（3）受験番号および氏名を指示されたところ以外に記入した場合や受験番号の数字が判別できない場合、採点の対象になりません。

（4）解答は、黒鉛筆またはシャープペンシルで答案用紙の所定の枠内に明確に記入してください。

（5）答案用紙の裏面には何も記入してはいけません。

（6）答案用紙に指示された以外のことを記入しても採点の対象になりません。

（7）英語で語数指定のある解答については、句読点は1語に数えません。算用数字は、2けた以上でも1語に数えます。

例：

“ She’s　 a　 student.”（3語）

2025（1語）

1. (配点率20%) Read the following and answer the questions.

著作権保護の観点から
問題文は掲載していません。

著作権保護の観点から
問題文は掲載していません。

Question 1. Read the paragraphs labeled from A to E and match each statement below with the paragraph that contains the most relevant information. If the statement is relevant to a paragraph labeled from A to E, choose A, B, C, D, or E. If the statement is not relevant to any of the paragraphs, choose F. Write the letter A, B, C, D, E, or F on your answer sheet. You may use the same letter more than once. Some letters will not be used.

Statements

1. Synthetic clothing materials dominate the global textile market.
2. Items we wear every day can discharge tiny pollutants during use and cleaning.
3. Fabrics like polyester gained popularity because they are long-lasting and simple to manufacture.
4. Without stopping the flow of plastic into nature, we cannot prevent it from entering our bodies.
5. The rise of throwaway fashion has increased the presence of plastic fibers in natural surroundings.
6. Consumers often think of visible litter when discussing environmental damage caused by plastic.

Question 2. Choose the most appropriate measure from A to F to fill in the blank [1]. Write A, B, C, D, E, or F on your answer sheet.

A. Implement circular design principles to extend product life and reduce waste in all stages of the production cycle.
B. Limit microplastic emissions through cleaner materials and improved production methods used in all types of clothing.
C. Include clear environmental labels and warnings about microplastic release on all textiles used for clothing production.
D. Support innovation and research to develop global alternatives to synthetic fibres and better filtration technologies.
E. Collaborate with the government to set and meet stricter environmental standards that address pollution from production.
F. Develop products that emit less microplastics throughout their entire life cycle, from manufacturing to disposal.

Question 3. Fill in the blank [2] with another measure to prevent the main problem addressed in the passage. Begin with a verb in the base form. Write between 15 and 20 English words.

2. (配点率30%) Read the following and answer the questions.

著作権保護の観点から
問題文は掲載していません。

著作権保護の観点から
問題文は掲載していません。

Question 1. Mastery experiences, vicarious experiences, verbal persuasion, and emotional and physical states are sources of self-efficacy. Each of the following examples 1 to 4 shows specific applications of each source of self-efficacy. Based on the passage, classify the primary source of each example by writing “M” for mastery experiences, “VE” for vicarious experiences, “VP” for verbal persuasion, or “E” for emotional and physical states on your answer sheet. You may not use the same option more than once.

1. I wasn’t sure if I should join the basketball team because I lacked experience and worried I might slow others down. I often watched from the side without playing. However, an older student told me that everyone has to start somewhere and that I might surprise myself if I gave it a try. His words made me feel more welcome and less afraid of failing. I decided to join and practiced hard every afternoon, staying late to work on my passing and shooting. Over time, my efforts paid off, and I became a valuable member of the team.

2. I was on the volleyball team, and each season the coach gave the most valuable player (MVP) award to the athlete who showed consistent performance and leadership. I wanted that recognition, so I always attended practice, stayed focused, and supported my teammates. Even when I felt tired, the goal of earning the MVP award pushed me to keep going. In the end, I received the award, and it made me believe more in myself.

3. On the day of a big match, I felt pain in my stomach and believed I couldn’t handle the pressure. Later, I came to see that my nervousness actually showed how much the game mattered to me. I started to interpret it as a sign of seriousness and concentration. This new way of thinking helped me stay calm and play well. After the match, I felt stronger and more prepared for future challenges.

4. A student in my class, who usually said he wasn’t good at drawing, decided to make a poster for the school festival anyway. He spent a lot of time planning and designing it, and in the end, he won a prize for creativity. Since we both started at the same level, I felt inspired by his effort and result. It showed me that talent is not everything—dedication makes a big difference. After that, I began drawing a little every day and found joy in expressing myself through art.

Question 2. Which option best justifies the use of mastery experience as the most powerful source of self-efficacy according to the passage? Write A, B, C, D, E, or F on your answer sheet.

A. It helps students feel confident after reading about others' success stories in a book.
B. It helps students feel confident after avoiding a few mistakes during simple exercises.
C. It helps students feel confident after listening to teachers explain the correct answers.
D. It helps students feel confident after completing a task by themselves with success.
E. It helps students feel confident after copying steps from a classmate's solution.
F. It helps students feel confident after watching a video without trying the task.

Question 3. Choose the action that is most likely to improve self-efficacy in the classroom, according to the passage. Write A, B, C, D, E, or F on your answer sheet.

A. Let students hear stories from classmates who reached goals without giving up. This will help them believe they can succeed.
B. Give students time to practice tasks on their own at their own pace without much teacher correction, to build independence.
C. Give students friendly praise, such as "Good job" or "Nice effort," for staying on task with limited specific feedback to help them improve.
D. Give students regular tests to monitor their progress, with grades returned quickly but lacking any comments or review.
E. Allow students to work quietly and focus on individual tasks during class while keeping their answers private.
F. Allow students to explore creative projects with few instructions, so they feel free to choose their own approach.

Question 4. Choose the most appropriate option to fill in blank [1]. Write A, B, C, D, E, or F on your answer sheet.

A. technology reduces hospital visits, and medical costs decrease
B. the overall population becomes healthier, and medical costs decrease
C. people have more access to affordable basic medication, and medical costs decrease
D. chronic diseases like diabetes and heart disease increase, and medical costs increase
E. people delay seeing a doctor until symptoms worsen, and medical costs increase
F. people miss regular checkups that detect early illness, and medical costs increase

Question 5. You are a high school student. Create a concept proposal for a mobile app. The app should help solve a specific problem mentioned in the underlined part of the passage. Your solution should make use of vicarious experience, as explained in the passage.

The proposal below contains two blank sections: [A] and [B]. Please complete each section according to the instructions.

For [A], describe the avatar (a digital character the user will observe) and the avatar's story in no more than 80 English words. Include details about the avatar, such as the avatar's age, personality, and initial skill level. Then explain what happens in the video story that allows the user to experience vicarious learning through the avatar's journey.

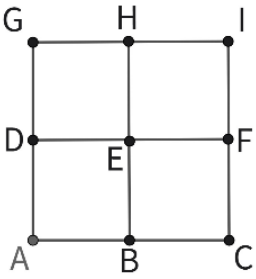
For [B], explain how the app helps the user through vicarious experience. Use no more than 60 English words. Clearly describe how the user observes the avatar, what the user learns from it, and how this helps the user overcome the underlined problem in the passage.

Mobile App Concept Proposal

Avatar and Video Story: [A]

Vicarious Experience Process: [B]

3. （配点率 18%） A～I まで 9 個の点が図のような道で結ばれていて，A を出発点として 1 秒ごとに隣の点へ移っていく．ただし，各点から分かれる道の数をmとするとき，$\frac{1}{m}$ の確率で隣へ移るものとする．例えば，A からは B, D のいずれかにそれぞれ $\frac{1}{2}$ の確率で移り，B からは A, C, E のいずれかにそれぞれ $\frac{1}{3}$ の確率で移り，E からは B, D, F, H のいずれかにそれぞれ $\frac{1}{4}$ の確率で移る．



出発点 A からn秒で点 P に移る確率を P(n)で表すことにすると，B(1)は $\frac{1}{2}$ であり，C(2)は $\frac{1}{2}\times\frac{1}{3}=\frac{1}{6}$ である．また，出発点 A から 2 秒で E に移るためには A→B→E と A→D→E の 2 通りの移り方があるので，E(2)$=\left(\frac{1}{2}\times\frac{1}{3}\right)+\left(\frac{1}{2}\times\frac{1}{3}\right)=\frac{1}{3}$ となる．

(問 1)　F(3)を求めよ．

(問 2)　B(3)を求めよ．

(問 3)　E(4)を求めよ．

4. （配点率 16%） 座標平面上でベクトルを考える．次の問いに答えよ．

(問 1)　$\overrightarrow{\mathrm{OA}}=\left(-\sqrt{6}-\sqrt{2},\ \sqrt{6}-\sqrt{2}\right)$，$\overrightarrow{\mathrm{OB}}=(\sqrt{6}+\sqrt{2},\ \sqrt{6}-\sqrt{2})$ のとき，$\overrightarrow{\mathrm{OA}}$と$\overrightarrow{\mathrm{OB}}$のなす角を求めよ．

(問 2)　a,bを実数の定数とする．$\overrightarrow{\mathrm{OP}}=(a,b)$，$\overrightarrow{\mathrm{OQ}}=(\cos\theta,\ \sin\theta)$で，$0\leqq\theta<2\pi$（ラジアン）とする．

(a)　$\overrightarrow{\mathrm{OP}}\cdot\overrightarrow{\mathrm{OQ}}$の最大値を求めよ．

(b)　$\overrightarrow{\mathrm{OR}}=(\ (a\cos\theta+b\sin\theta)\cos\theta,\ (a\cos\theta+b\sin\theta)\sin\theta\ )$のとき，点Rはどんな図形上にあるか．

5. （配点率 16%） 次の問いに答えよ．

(問 1)　異なる 2 点を通る直線を割線（かっせん）という．曲線 $y=f(x)$ 上の 2 点 $\left(a-h,\ f(a-h)\right)$ と $\left(a+h,\ f(a+h)\right)$ を通る割線の方程式を，$y=px+q$ の形で最も簡単な式で表せ．

(問 2)　(問 1)で求めた式の p の部分を中心差分という．この式で $h\to 0$ とすれば，関数 $y=f(x)$ の $x=a$ における微分係数が求められる．中心差分の式を使って，関数 $f(x)=x^3$ の $x=a$ における微分係数を求めよ．

(問 3)　中心差分の式を使って，関数 $f(x)=x^n$ （nは正の整数）の導関数を求めよ．