

別紙解答用紙に解答すること。

問 1 第一志望の学部・学科を明記し、その学問分野を志望する理由を述べなさい。さらに、あなたがこれまでのスポーツ活動を通じて得た経験を志望する分野の勉学や将来の進路にどのように活かせるか述べなさい。

問 2 次の英文を読み、設問(1)～(4)に日本語で答えなさい。

I have spent much of my career studying ways to blunt the effects of disinformation and help the public make sense of the complexities of politics and science. ①When my colleagues and I probed the relation between the consumption of misinformation and the embrace, or dismissal, of protective behaviors that will ultimately stop the coronavirus's spread, the results were clear: Those who believe false ideas and conspiracy theories about COVID-19 and vaccines are less likely to engage in mask wearing, social distancing, hand washing and vaccination.

In the midst of a raging pandemic, the importance of science communication is indisputable. Mention "science communication," though, and what comes to mind in this context are public service announcements touting the 3 Ws (Wear a mask, Watch your distance, Wash your hands) or the FAQ pages of the Centers for Disease Control and Prevention. Ask someone what "science communicator" evokes, and responses might include a family physician and experts such as Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases, and CNN's Sanjay Gupta, who appear so regularly on our screens that we think of them as friends. But Fauci isn't on your family Zoom call when a cousin mistakenly asserts that the CDC has found that wearing a mask makes you more likely to get COVID-19. Nor is Gupta at the ready when your friend's daughter wonders whether the COVID vaccine contains microchips designed to track us.

②It matters how we respond in these moments.

(出典: K.H. Jamieson. How to Counter COVID Misinformation. *Scientific American* 324, 4, 44-51, 2021. doi:10.1038/scientificamerican0421-44 より一部抜粋・改変)

blunt: (決意・効果などを)鈍らせる; make sense of: 理解する; complexity: 複雑さ; consumption: 消費量;  
embrace: 受け入れ, 容認; dismissal: 却下, 放棄; conspiracy: 陰謀; indisputable: 議論の余地のない; tout: 推  
奨する; Zoom: Web 会議システムの名称

- (1) 下線部①を日本語に訳しなさい。
- (2) 著者は、どのような研究を行ってきたと述べているか、記しなさい。
- (3) 下線部②について、本文中で具体的にどのような場面を指しているかを述べなさい。また、あなたが考える適切な対応を述べなさい。
- (4) 本文中にあげられている misinformation 以外で、あなたが遭遇した、あるいはオンライン上で見かけた COVID-19 や COVID-19 vaccine に関する misinformation を 1 つあげ、それがどのように誤っているか科学的知見も含めながら説明しなさい。

問 3 次の問(1)～(4)に答えなさい。

- (1)  $(\log_2 3 + \log_4 9)(\log_3 4 + \log_9 2)$  を計算しなさい。
- (2)  $\cos \frac{7\pi}{12}$  の値を求めなさい。
- (3) 関数  $y = \log \left( \frac{x^2+1}{x^2+3} \right)$  を微分しなさい。
- (4) 関数  $f(x) = x + \frac{1}{x-2}$  の増減表をつくりなさい。また、曲線  $y = f(x)$  の漸近線の方程式を求めなさい。

以上