

- 問1 次の文章は、グリーン先生 (Ms. Green) と高校生のダイチ (Daichi) とサラ (Sara) の会話の一場面とその後行われた発表の原稿である。会話文 I、会話文 II 及び発表原稿について、あとの(ア)～(オ)の問いに答えなさい。

会話文 I

- Ms. Green : How was your vacation ? Did you do anything fun ?
Daichi : My father took us to my grandparents' house by car. It is in the north of Kanto. We enjoyed hiking and having a *BBQ there.
Ms. Green : Great. How far is your grandparents' house from your house ?
Daichi : It is 176 km.
Sara : That's a long drive ! Were you tired ?
Daichi : Not really. Our family bought a *hybrid car. It's a very *silent and *comfortable car, so I was able to sleep. The car uses both *gasoline and *electricity as its *energy sources, so it works with *less gasoline than a gasoline car. Our old gasoline car ran 11 km *per *liter, so it used more than 30 liters of gasoline to go to my grandparents' house and come back. However, our new car just used 20 liters.
Sara : That's nice. What percent of gasoline did you save on your family trip by using your hybrid car ?
Daichi : I'm not sure. Let me *calculate. Well ... My family saved about % of gasoline then.
Ms. Green : I wish I had a hybrid car. I have had a gasoline car for many years. I feel I use more money than before to buy gasoline because it is becoming more expensive. I want to travel by car often, but I *am always worried about how much money I use for gasoline.
Daichi : I thought . You mean the price often changes, right ?
Ms. Green : Yes, it does.
Daichi : Did you know that, Sara ?
Sara : Yes, but I don't know why it changes. So let's *find out why and share the things we find about gasoline in Japan.
Daichi : Sounds good. Ms. Green, could you join us after school tomorrow ?
Ms. Green : Sure. No problem.

* BBQ : バーベキュー hybrid car : ハイブリッド車 silent : 静かな comfortable : 快適な
gasoline : ガソリン electricity : 電気 energy sources : energy source (エネルギー源) の複数形
less : より少ない per ~ : ~あたり liter : リットル calculate : 計算する
am always worried about ~ : ~をいつも気にしている find out ~ : ~を調べる

- (ア) 会話文 I の にあてはまるものとして最も適するものを、次の 1～7 の中から一つ選び、その番号を答えなさい。

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|-------|-------|-------|-------|
| 1. 20 | 2. 33 | 3. 38 | 4. 50 |
| 5. 63 | 6. 67 | 7. 80 | |

会話文Ⅱ

Daichi : Ms. Green, you were right! The price of gasoline in Japan often changes. One of the reasons is the price of *oil. Gasoline is made from oil. Japan *relies on other countries for oil. The price of oil also changes. So, if the oil is bought at a high price from other countries, gasoline will be sold at a high price.

Ms. Green : That's a good point.

Daichi : Have you found anything else about gasoline, Sara ?

Sara : Yes. I found that う in Japan.

Daichi : Why is that ?

Sara : There are a lot of reasons. I'll show you one of them. Look at this Map. The stars (★) show the *major *oil factories around Japan and they *produce gasoline. Then, it is carried to each *gas station by ship, train, or truck. The price of gasoline at each gas station *depends on the *cost to carry gasoline from the factories to the gas stations. If a gas station is far from the factories, the price is high. When there are high mountains between the gas stations and the factories, the price is high, too. Also, in some *prefectures which have many mountains or islands, gasoline is sold at a high price. In those prefectures, it is difficult to carry a lot of gasoline *at one time from the factories to the gas stations.



Daichi : I see.

Ms. Green : The price of gasoline has a big *impact on our lives.

Daichi : Using too much gasoline also creates a big impact on the environment because it *leads to CO₂ *emissions, and they *cause *global warming. Today, some car companies have been *working on making a new *type of car which only uses electricity.

Sara : That's an *electric car, right? I have seen many kinds of those cars on news. I want to know more about them!

Daichi : Do you remember we need to make a presentation in the next English class? Why don't we get a lot of information about electric cars and talk about them?

Sara : Sounds great! I'm sure our classmates will be interested in them.

* oil : 原油 relies on ~ : ~に頼っている major : 主な oil factories : 製油所
 produce ~ : ~をつくる gas station : ガソリンスタンド depends on ~ : ~次第である
 cost : 費用 prefectures : 都道府県 at one time : 一度に impact : 影響
 leads to ~ : ~につながる emissions : 排出 cause ~ : ~を引き起こす
 global warming : 地球温暖化 working on ~ : work on ~ (~に取り組む) の~ing形 type : 型
 electric car : 電気自動車

(4) 次の 1~6 の県を比べたとき、県内のガソリン平均小売価格が最も安いと考えられる県を一つ選び、その番号を答えなさい。ただし、会話文Ⅱで示されたことのみで考えるものとする。

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|--------|---------|--------|--------|
| 1. 山形県 | 2. 埼玉県 | 3. 長野県 | 4. 富山県 |
| 5. 長崎県 | 6. 鹿児島県 | | |

Hello, everyone. Today our group wants to talk about electric cars. Electric cars have good points and bad points. First, I'll talk about the good points. To run the same distance, electric cars *cost less than gasoline cars. Also, electric cars don't *emit CO₂ when they run. We can say that they are more *eco-friendly than gasoline cars. Next, I'll talk about three bad points. First, *charging electric cars needs more time than *filling up cars with gasoline. It takes only a few minutes to *fully fill up an *empty tank of a gasoline car with gasoline, but it takes more than 30 minutes to fully charge an empty *battery of an electric car at a *fast charging station. Second, electric cars cannot run a long distance on a *single charge. There are not many charging stations in Japan, so it is difficult to find them when you need to charge electric cars. Third, the price of an electric car is higher than the price of a gasoline car for many reasons. For example, an electric car needs an expensive battery.

By the way, do you know how much electricity electric cars need? A *typical electric car with an empty battery needs about 60 kWh when it is fully charged. *On average, one family in Japan uses about 4,260 kWh per year at home. So, about *worth of electricity at home is necessary to fully charge the electric car. Japan doesn't produce much electricity now. If many people use electric cars in the future, Japan will have to produce more electricity than before. The Japanese *government wants many people to use electric cars *instead of gasoline cars because it is trying to stop global warming. Using electric cars will be one of the ways to solve the problem. However, we should remember that Japan relies on *thermal *power plants to produce electricity, so they will emit more CO₂ if Japan produces more electricity.

If we can build *fast charging and *cheap batteries for *long-distance driving, produce more electricity, and build new types of power plants that don't emit CO₂, more people will start to use electric cars. There are a lot of things to do, but we are the *generations to work on them. Please look at this *Slide. This newspaper *article was written more than 100 years ago. You can see what people *in those days thought about electricity. They believed that え . They tried to imagine the future, and now it's our *turn to create new ideas and technology for our future. Thank you for listening.

二十世紀の予言

『報知新聞』

明治34年1月2日より抜粋

- ▲植物と電気 電気力を以て野菜を成長
することを得べく而して豌豆は橙大となり
菊牡丹薔薇は緑黒等の花を開くもあるべ
く北寒帯のグリーンランドに熱帯の植物生
長するに至らん
- ▲写真電話 電話口には対話者の肖像現
出するの装置あるべし
- ▲買物便法 写真電話によりて遠距離に
ある品物を鑑定し且つ売買の契約を整へ其
品物は地中鉄管の装置によりて瞬時に落手
することを得ん
- ▲電気の世界 薪炭石炭共に尽き電気之
に代りて燃料となるべし

Slide

* cost less than ~ : ~より費用がかからない emit ~ : ~を排出する
 eco-friendly : 環境に配慮した charging ~ : charge ~ (~を充電する) の~ing 形
 filling up ~ with ... : fill up ~ with ... (~を...で満たす) の~ing 形 fully : 完全に
 empty : 空の battery : バッテリー fast charging station : 急速充電所 single charge : 一回の充電
 typical : 代表的な On average : 平均して ~ worth of ... : ~分相当の... government : 政府
 instead of ~ : ~の代わりに thermal : 火力の power plants : 発電所 fast charging : 急速充電の
 cheap : 安い long-distance : 長距離の generations : 世代
 Slide : プレゼンテーション資料のスライド article : 記事 in those days : 当時の turn : 出番

(ウ) 発表原稿の にあてはまるものとして最も適するものを、次の 1~8 の中から一つ選び、その番号を答えなさい。

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|-----------|------------|------------|-------------|
| 1. 1 hour | 2. 3 hours | 3. 5 hours | 4. 12 hours |
| 5. 1 day | 6. 3 days | 7. 5 days | 8. 1 week |

(エ) 会話文 I、会話文 II 及び発表原稿の い ~ え にあてはまるものとして最も適するものを次の 1~4 の中から選んだときに、いずれにもあてはまらないもの一つを選び、その番号を答えなさい。

1. it is sold at different prices in different places
2. people will not buy it in the future
3. it would be used as an energy source in the future
4. we could always buy it at the same price

(オ) 次の a~c について、会話文 I、会話文 II 及び発表原稿の内容と合っているものは正、合っていないものは誤とする組み合わせとして最も適するものを、あとの 1~8 の中から一つ選び、その番号を答えなさい。

- a. Gasoline has become expensive in Japan because people started using electric cars.
- b. Charging an electric car's battery from zero takes less time than filling up an empty tank of a gasoline car with gasoline.
- c. Daichi and Sara believe that young people should create new ideas and technology to improve electric cars and to protect the environment.

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|----------|-------|-------|----------|-------|-------|
| 1. a : 正 | b : 正 | c : 正 | 2. a : 正 | b : 正 | c : 誤 |
| 3. a : 正 | b : 誤 | c : 正 | 4. a : 正 | b : 誤 | c : 誤 |
| 5. a : 誤 | b : 正 | c : 正 | 6. a : 誤 | b : 正 | c : 誤 |
| 7. a : 誤 | b : 誤 | c : 正 | 8. a : 誤 | b : 誤 | c : 誤 |