Grade ( 1) Class (　　) No. (　　) Name (　　)

English Expression Ⅰ : **【English×Data Science】** How to describe charts/graphs

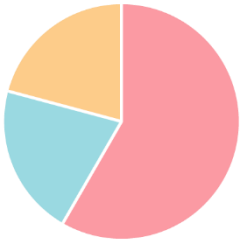
【Goals】After lessons,

・You should be able to describe charts/graphs in English.

・You should be able to make a presentation about “weather and beverages” with Google Slides in English.

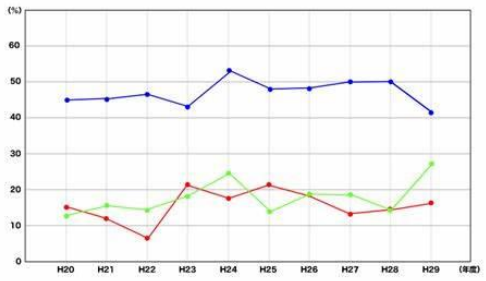
## 1 Chart Types

[①　　]



[②　　]


[③　　]

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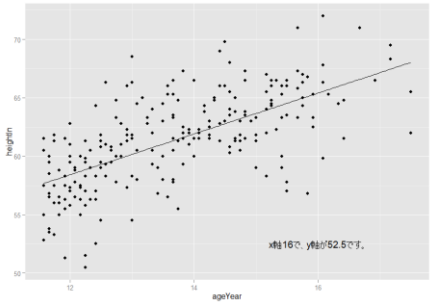
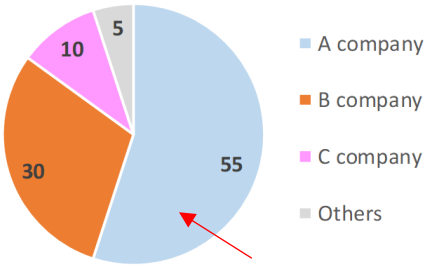


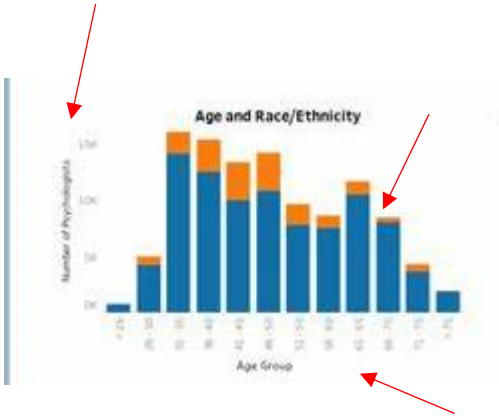

[⑤　　]

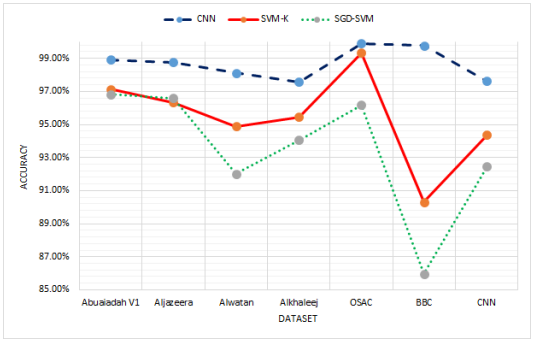
第一下半期:支店別売上データ表

| 支店名 | 7月 | 8月 | 9月 |
|---|---|---|---|
| 札幌 | 54,264 | 26,426 | 25,121 |
| 東京 | 35,486 | 21,122 | 26,684 |
| 大阪 | 45,685 | 22,555 | 26,854 |
| 福岡 | 14,215 | 15,005 | 14,265 |

## 2 Parts of Charts



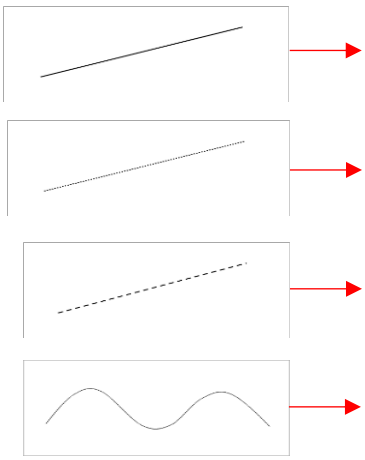
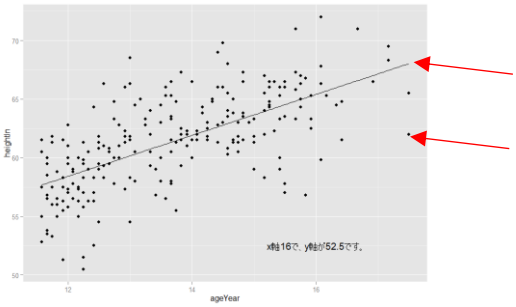



Table: Revenue and profit of A-company

| Million $ | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|
| Revenue | 10 | 8 | 12 | 15 |
| Profit | 2 | 0.5 | 2.5 | 3 |



## 3 English Phrases to Describe Charts

| | | | |
|---|---|---|---|
| 数字 | figure | 数値 | value |
| 平均 | average | 最大の | maximum |
| 最低の | minimum | 累計の | cumulative |
| 割合 | rate, ratio | パーセント | percentage |
| 分布 | distribution | シェア | share |
| 比例する | proportional | 反比例する | inversely proportional |
| ～を表す | show, indicate, represent, describe | | |

| | | | |
|---|---|---|---|
| 増加する | increase | 減少する | decrease |
| ～%増加する | increase by ～% | ～%減少する | decrease by ～% |
| 大幅に増える | soar | 大幅に減る | drop |
| ２倍になる | double | 半分になる | halve |
| 急激に | rapidly | 緩やかに | slowly, gradually |
| 着実に | steadily | わずかに | slightly |
| 横ばいの | stagnant | | |

MY WORD LIST

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## 4 How to Describe charts

When you describe charts, you should …

Point 1. Explain what the chart is about.
Point 2. Explain how to see/read the chart.
What the vertical or the horizontal axis represents
What the solid line or the dotted line represents, etc…
Point 3. Describe what can be read from the chart.

★Example 1★

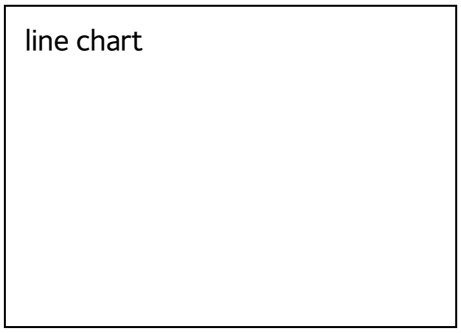
bar chart

This **bar chart** shows the participants in the three classes. The **horizontal axis** represents classes, and the **vertical axis** represents the number of participants. **Compared with** the other two classes, Class B has the most participants. Class C has the lowest number of participants and has half of those in Class B.

☆Question-1☆
Read the description of the chart above, and
①underline (with a solid line) the sentence(s) that applies(apply) to Point 1.
②underline (with an undulated line) the sentence(s) that applies(apply) to Point 2.
③underline (with a broken line) the sentence(s) that applies(apply) to Point 3.

☆Question-2 (T/F questions)☆
① The total number of participants is 45. ( T / F )
② Class B has 15 more participants than Class C. ( T / F )
③ Class B and C together have the same number of participants as double of Class A. ( T / F )

★Example 2★




This **line chart** shows the population **transitions** for the three cities. The horizontal axis represents years, and the vertical axis represents population. The **broken line** represents the population of City B and shows that it has increased gradually since 2010. **As you can see here**, the population of City C **is expected to** decrease **by over 70 %** by 2030.

☆Question-1☆

Read the description of the chart above, and

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③underline (with a broken line) the sentence(s) that applies(apply) to Point 3.

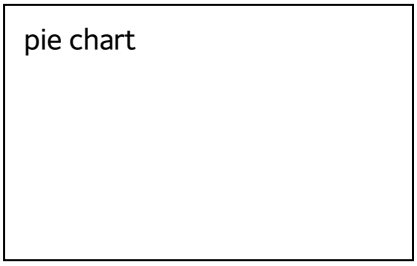
☆Question-2 (T/F questions)☆

① In the year 2030, City A will have 40,000 people. ( T / F )

② City B is always the most populated city. ( T / F )

③ In 2030, City B is more populated than City A and B combined. ( T / F )

★Example 3★




This **pie chart** shows the **ratio** of all grades in the school. The red **segment** shows the percentage of the 1st-year students. The 2nd-year students **make up** 45 % of the total number of students.

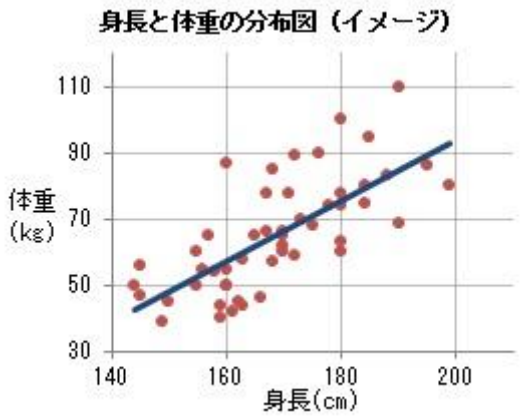
☆Question-1 (T/F questions)☆

① The number of students in 2nd grade is more than that of first and third grades together. ( T / F )

② The number of 1st year students is twice as large as that of third year students. ( T / F )

③ Twice the number of the difference between 1st and 2nd year students is less than the amount of 3rd year students. ( T / F )

★Example 4★




The **scatter chart** on the left shows the **relation** between a person's height and weight. Each **dot** represents an individual person. Both **variables** are trending upward, and they are generally following the set **trendline**, so this chart shows that height vs weight has a **high positive correlation**.

☆Question☆

Read the description of the chart above, and

①underline (with a solid line) the sentence(s) that applies(apply) to Point 1.

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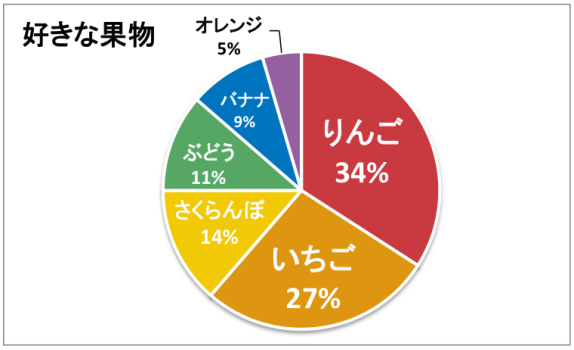
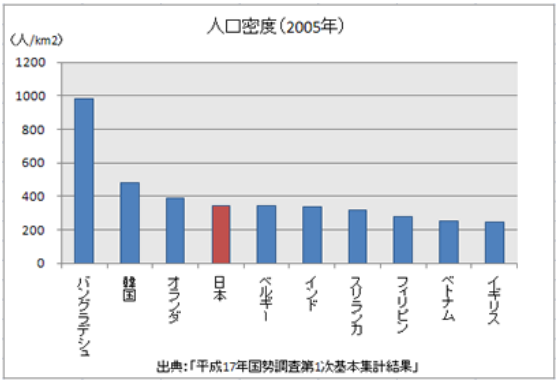
**Exercise**

Describe the charts below in English.




Grade ( 1) Class (  ) No. (  ) Name (  )