

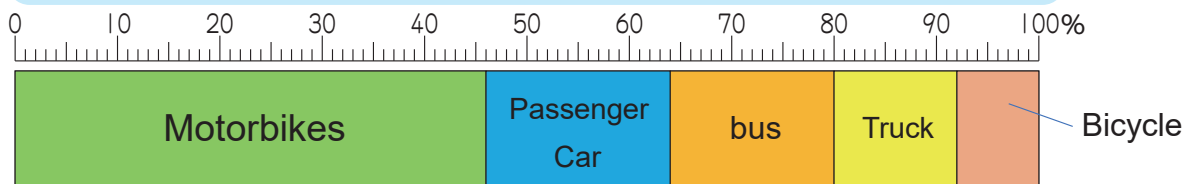
13 - 1

Ratio and Graph

Read Strip Charts

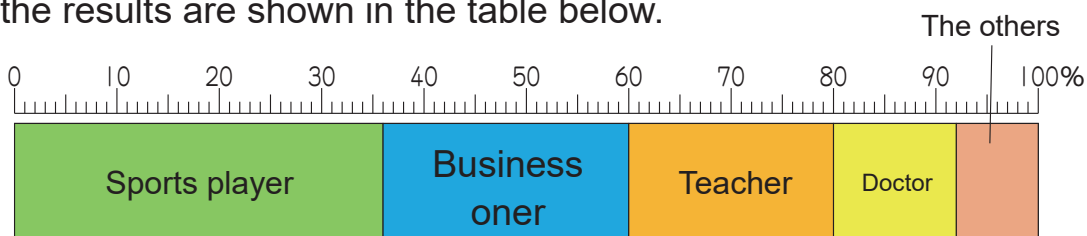
Example 1 The chart below shows the number of cars passing by the school, by type.

A graph that represents the part-whole relationship by rectangle-like bands is called **strip chart (graph)**. It is usually arranged in order of increasing number. There are several names of the graph.



- What percentage of the total number of motobike do you have?
- What percentage of the total number of bus do you have?
- When we were investigating, there were 50 cars in total that passed by the school. How many trucks were there?
 Percentage of truck is

We surveyed Year 5 students about what they would like to be in the future and the results are shown in the table below.



- What percentage of the total number of sports players do you have?
- What percentage of the total number of teachers do you have?
- There were 50 students in total. How many students who want to be a business oner?
 Business oner is

13 - 2

Ratio and Graph

Read Pie Charts

Example 1 The graph below represents the ratio of favorite sports of grade 5 students.

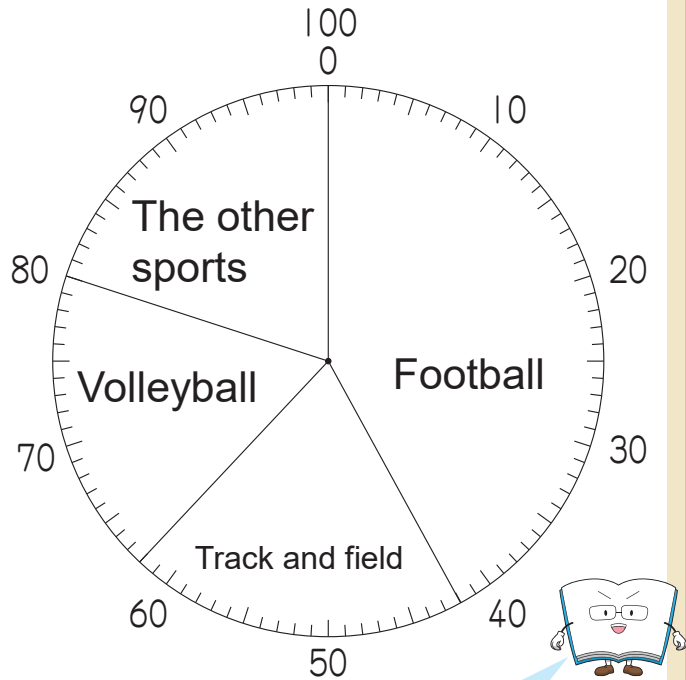
1 What percentage of the total is the ratio of football?

42%

2 What percentage of the total is the ratio of track and field?

20%

3 There were 50 students in total. How many students who like volleyball?



A graph that is drawn as a circle is called **pie chart (graph)**. There are several name of the graph.

Volleyball is

18%

$$50 \times 0.18 = 9$$

9 students

The pie chart below represents the rates of energy consumed per household. Answer the following question.

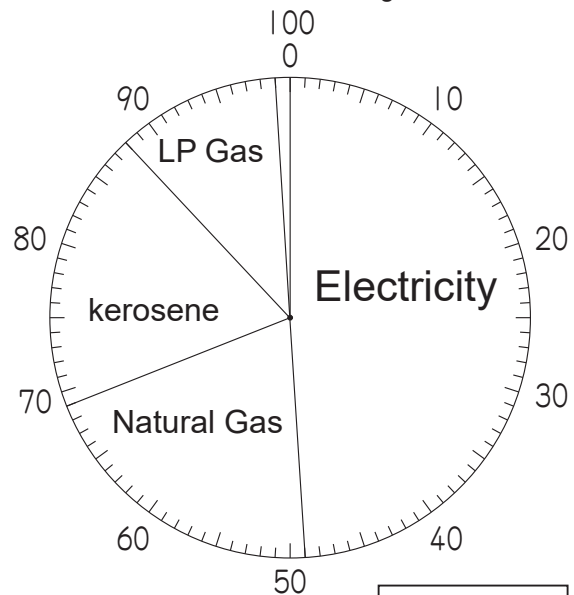
1 What percentage of the total energy consumption is electricity? About how many % is it?

2 What percentage of the total is the ratio of LP Gas?

3 About how many times as much as natural gas is consumption as LP gas?

Natural gas

*Kerosene is a light fuel



13 - 3

Ratio and Graph

Draw Strip Charts

Example The table on the right shows the number of books sold by a bookshop in a month.

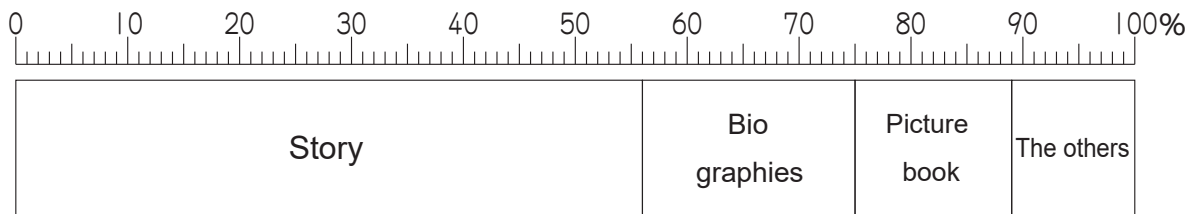
- 1 Find the proportions that apply to (a) ~ (e) in the table on the right. (Percentages should be rounded to the nearest whole number.)



$$\text{Percentage} = \frac{\text{Part}}{\text{Total}}$$

Type	Number of books	Percentage (%)
Story	48	(a) <input type="text" value="56%"/>
Biographies	16	(b) <input type="text" value="19%"/>
Picture book	12	(c) <input type="text" value="14%"/>
The others	9	(d) <input type="text" value="11%"/>
Total	85	(e) <input type="text" value="100%"/>

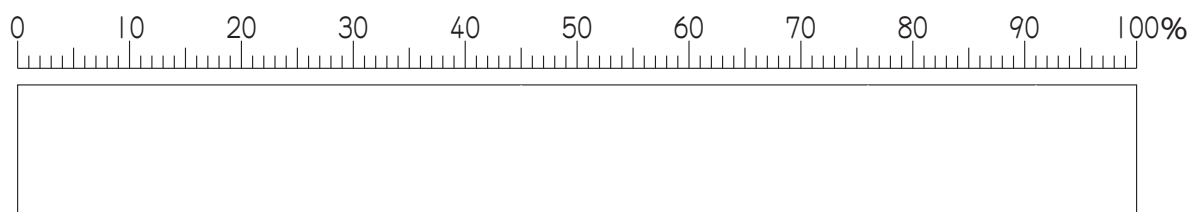
- 2 Let's show it on a strip chart



The table on the right shows the number of times 80 students read a book in one week. Find the proportions that apply to (a) ~ (d) in the table on the right. (Percentages should be rounded to the nearest whole number).

- 1 Let's show it on a strip chart

Number of times	Number of students	Percentage (%)
At least once a day	12	(a) <input type="text"/>
At least once a week	36	(b) <input type="text"/>
At least once a month	25	(c) <input type="text"/>
Less than once a month	7	(d) <input type="text"/>
Total	80	100%



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Ratio and Graph

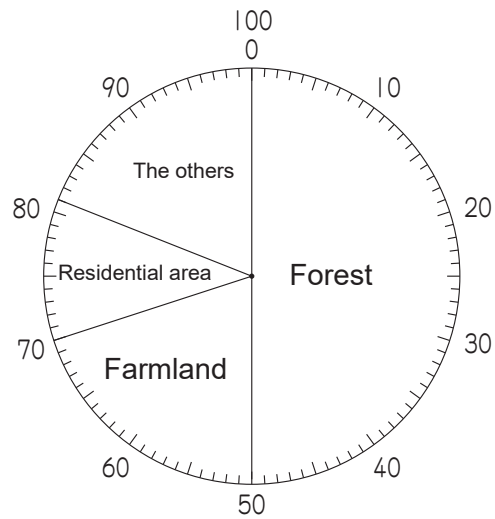
Draw Pie Charts

Example The table shows the land use in a town.

- 1 Find the proportions that apply to (a) ~ (e) in the table on the right. (Percentages should be rounded to the nearest whole number.)

Type	Area (km ²)	Percentage (%)
Forest	40	(a) <input type="text" value="50%"/>
Farmland	16	(b) <input type="text" value="20%"/>
Residential area	9	(c) <input type="text" value="11%"/>
The others	15	(d) <input type="text" value="19%"/>
Total	80	(e) <input type="text" value="100%"/>

$$\text{Percentage} = \frac{\text{Part}}{\text{Total}}$$



- 2 Let's show it on a pie chart.

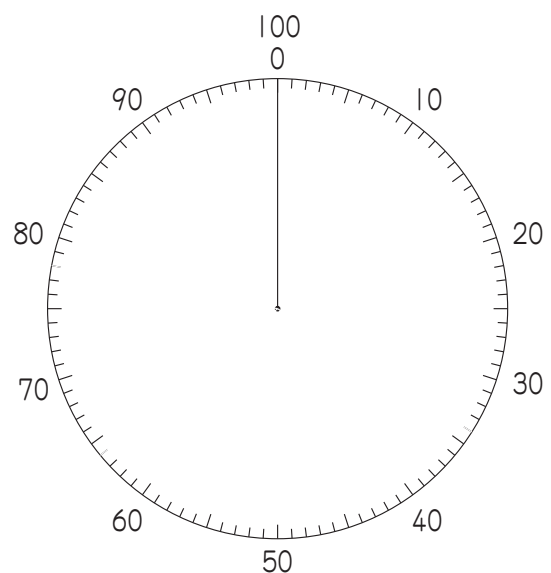
Even if some numbers are less than the others, the others are placed last.



In a group, student answered which animal they wanted to own.

- 1 Find the proportions that apply to (a) ~ (e) in the table on the right. (Percentages should be rounded to the nearest whole number.)

Animal	Number	Percentage (%)
Dog	17	(a) <input type="text"/>
Cat	15	(b) <input type="text"/>
Small bird	7	(c) <input type="text"/>
The others	11	(d) <input type="text"/>
Total	50	(e) <input type="text"/>



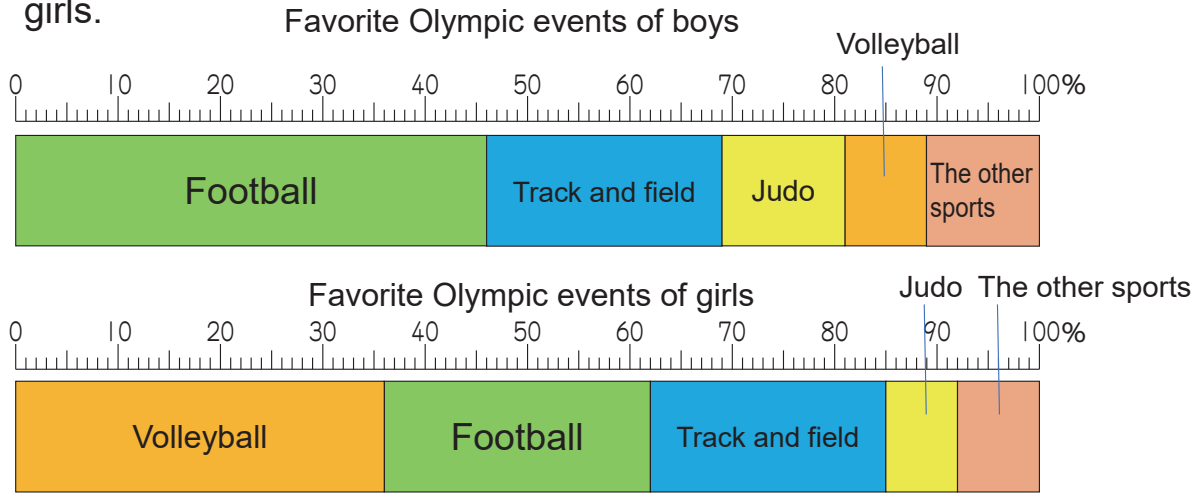
- 2 Let's show it on a pie chart.

13-5

Ratio and Graph

Review (1)

1 The following graph represent the favorite Olympic event of boys and girls.



1 What percentage of the total is the ratio of volleyball by each boys and girls?

boys Girls

2 What percentage of the total is other sports in each graph?

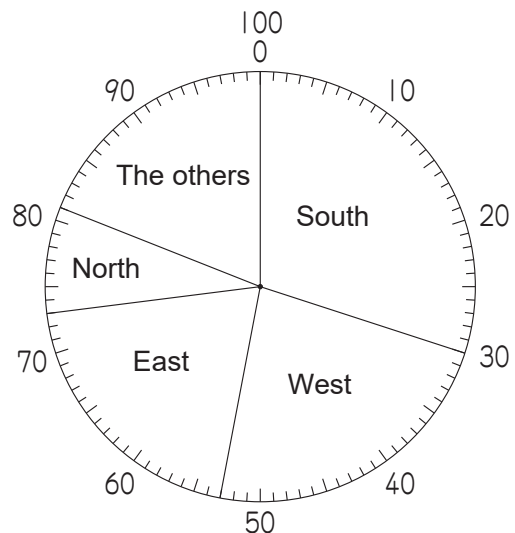
boys Girls

3 Which sport has the smallest difference between the proportion of boys and girls?

2 The pie chat shows the ratio of amount of banana harvested by region in 2021.

1 What percentage of the total is South region?

2 The national amount of banana in this year was 600000 t. How many tons was approximate amount of banana in East region?



13 - 6

Ratio and Graph

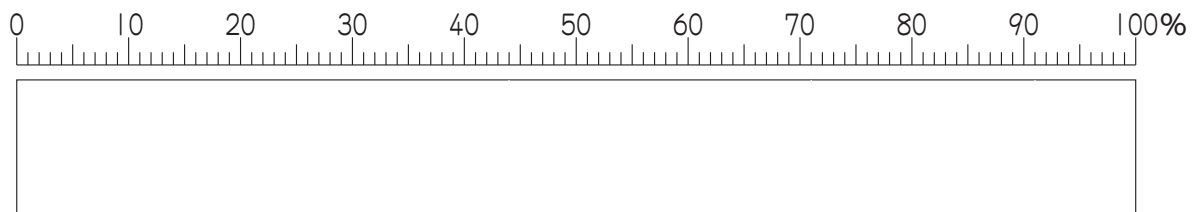
Review (2)

1 The following tables shows the number of injury reports of the hospital per month.

1 Find the proportions that apply to (a) ~ (e) in the table on the right. (Percentages should be rounded to the nearest whole number.)

Type	Number of people	Percentage (%)
Scrapes	40	(a) <input type="text"/>
Bruises	24	(b) <input type="text"/>
Cuts	18	(c) <input type="text"/>
The others	8	(d) <input type="text"/>
Total	90	(e) <input type="text"/>

2 Let's show it on a strip chart



2 The following table shows the number of lunch menu for 200 families in the school event day. Find the proportions that apply to (a) ~ (d) in the table on the right. (Percentages should be rounded to the nearest whole number.) Show it on a pie chart.

menu	Number of people	Percentage (%)
Traditional meal	108	(a) <input type="text"/>
Chicken	56	(b) <input type="text"/>
Sandwich	24	(c) <input type="text"/>
The others	12	(d) <input type="text"/>
Total	200	100%

