

MATHEMATICS TEST

Year 9

Spring 2007

Part A – Oral Part

**The contents of this test material
must remain *secret* until 2007-06-30.**

Teacher material – For copying
Information about the different versions

Student material – For copying
Information for students
Version A
Version B
Version C

PRIM
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Information about the different versions

All versions test whether the students can analyze and interpret data in tables and diagrams. They also test whether students can critically examine the advantages and disadvantages of different diagrams. Our preliminary testing of these questions has shown that it is *advisable to discuss the diagrams in a particular order*. The diagram pages are therefore assembled in different versions and within each version they are numbered (e.g. A1, A2, A3 and A4), in the order in which they should be discussed. For each version you may *choose different paths* for discussion questions. These different paths may be chosen independently of which version is used. Path 1 is somewhat simpler than the other two paths. About half of the assigned time should be used for discussion.

Path 1

Common discussion questions

- Which of the diagrams do you think is most suitable for this survey?
- How would you make a diagram showing the result of this survey?
- Suppose that you were to do a similar survey involving several hundred students and were to present the results in diagram form in a local newspaper. How would you go about this task?

Path 2

Common discussion questions

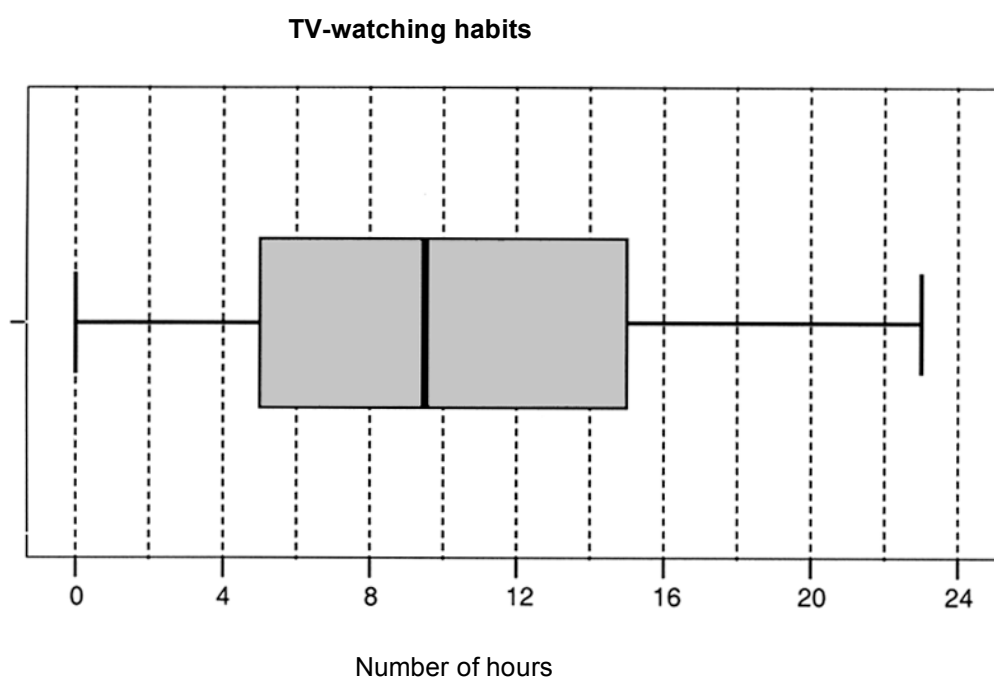
- Which of the diagrams do you think is most suitable for this survey?
- Choose one or several of your diagrams. Imagine that you do not have the table. What information can you get from the diagrams alone?
- Is it possible to determine the mean and the median from the diagram/diagrams?
- How would you have made a diagram to show the result of the survey?

Path 3

Common discussion questions

- Which of the diagrams do you think is most suitable for this survey?
- Show the box-and-whisker diagram (diagram D on page 3). Make use of the table and explain how this diagram is made. What information can be seen in this diagram?
- Choose one or several of your diagrams. Imagine that you do not have the table. What information can you get from the diagrams alone?
- Is it possible to determine the mean and the median from the diagram/diagrams?

Diagram D



Information for students

This is a description of the oral part of the national test. This part is to be carried out in groups of 3–4 students sitting together with the teacher around a table.

- Each of you will get a page with a table and a diagram. You may study this page for a minute or so. Think about how you will answer the two questions on the page. Your teacher will tell you in what order you should present your answers.
- Each student presents his/her solutions for the others in the group. After each presentation your fellow-students may ask questions, make additional comments and present arguments for or against.
- When all students have presented their solutions, the teacher will ask some questions which you will then discuss.
- The evaluation of your efforts and contributions for this oral test will be based on three aspects:

Understanding

To what extent you show that you have understood the question, the concepts and relationships between them.

Language

How clear your explanation is, and how well you use mathematical language.

Degree of participation

To what extent you participate in the discussion, can argue for your ideas and respond to the explanations of other students.

Remember that this is an opportunity to demonstrate your knowledge both when presenting your explanations, when discussing other students' explanations and in the closing discussion. Your achievement on this oral part of the examination gives a number of g- and vg-points and you may also show MVG-quality on this part. The result of this oral part is then combined with your results on the other parts of the national test.

Version A

Task A:1

30 Grade 8 students at a school answered this question.

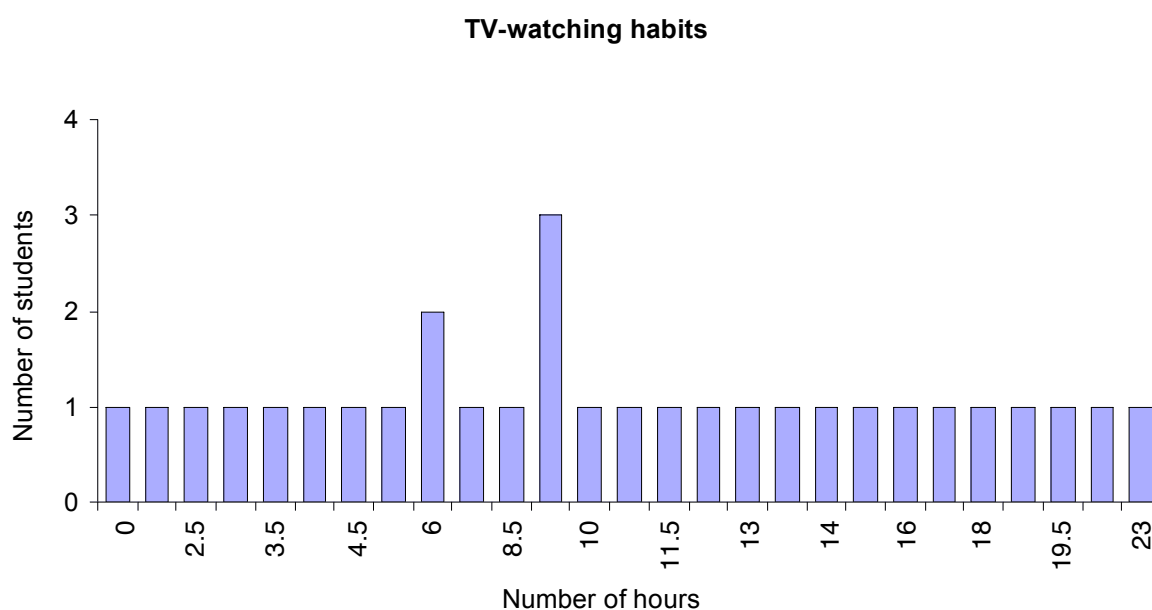
How many hours per week do you watch TV?

You can see the results of this survey in the table.

Different groups of students had the task of presenting the material clearly in the most suitable way.

0	8	13.5
1.5	8.5	14
2.5	9	15
3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group A:1 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version A

Task A:2

30 Grade 8 students at a school answered this question.

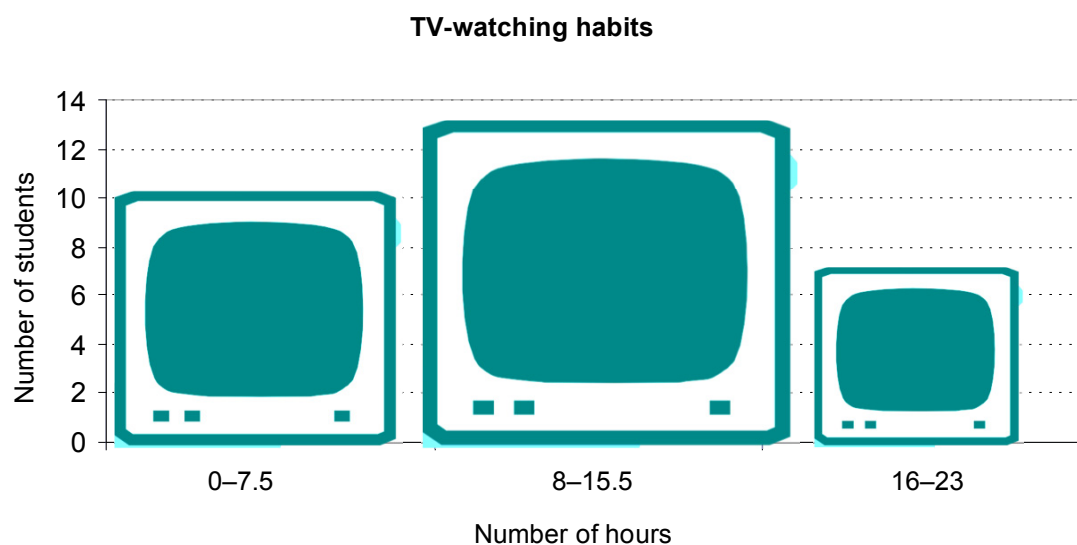
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2.5	9	15
3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group A:2 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version A

Task A:3

30 Grade 8 students at a school answered this question.

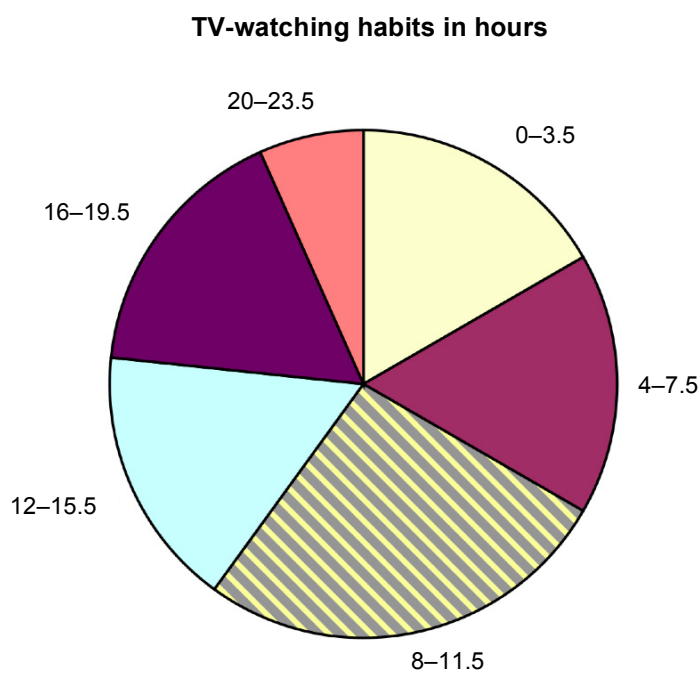
How many hours per week do you watch TV?

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1.5	8.5	14
2.5	9	15
3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group A:3 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version A

Task A:4

30 Grade 8 students at a school answered this question.

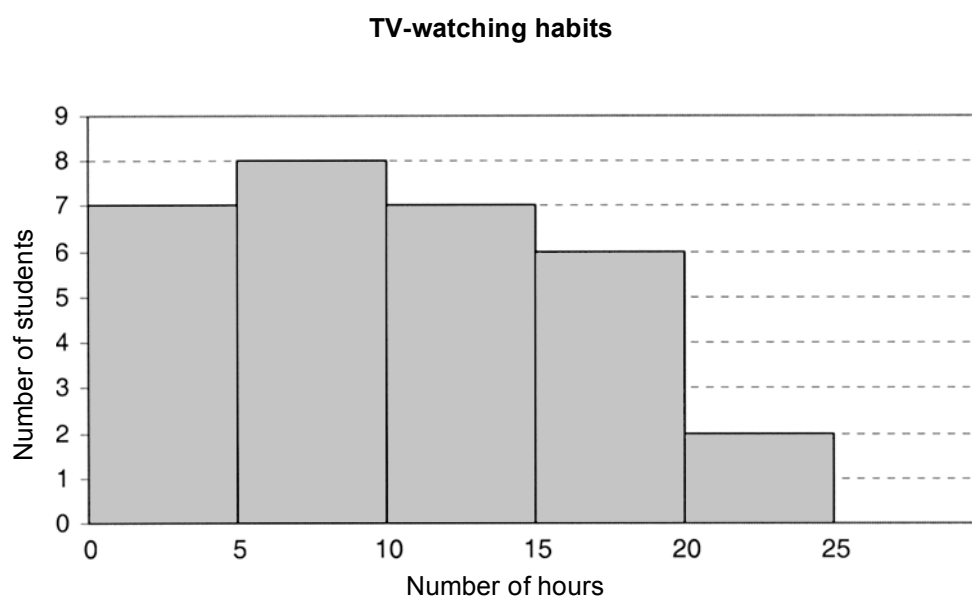
How many hours per week do you watch TV?

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2.5	9	15
3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group A:4 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version B

Task B:1

30 Grade 8 students at a school answered this question.

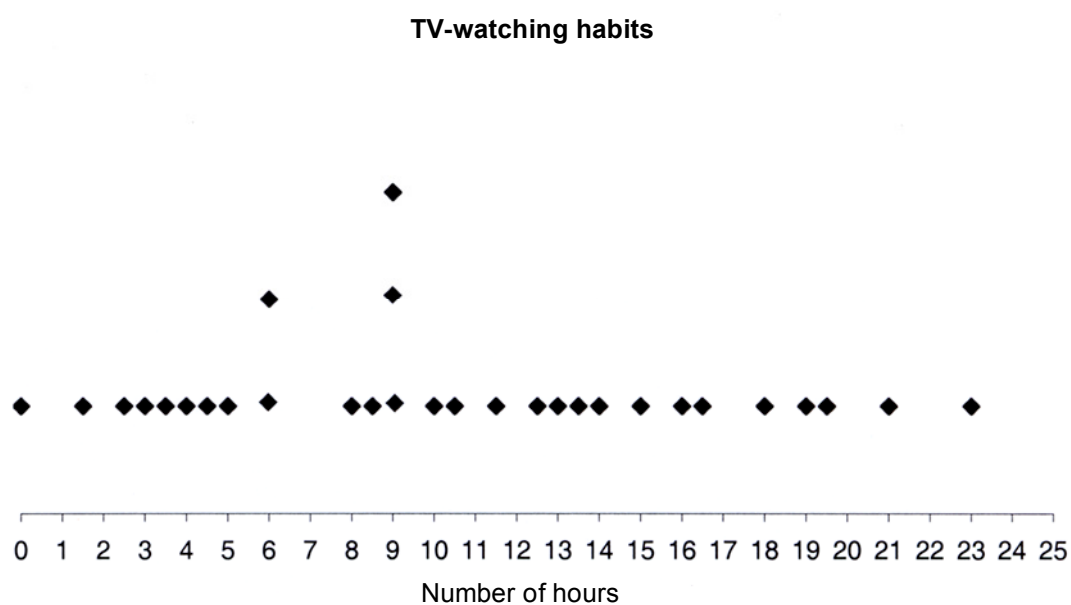
How many hours per week do you watch TV?

You can see the results of this survey in the table.

Different groups of students had the task of presenting the material clearly in the most suitable way.

0	8	13.5
1.5	8.5	14
2.5	9	15
3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group B:1 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version B

Task B:2

30 Grade 8 students at a school answered this question.

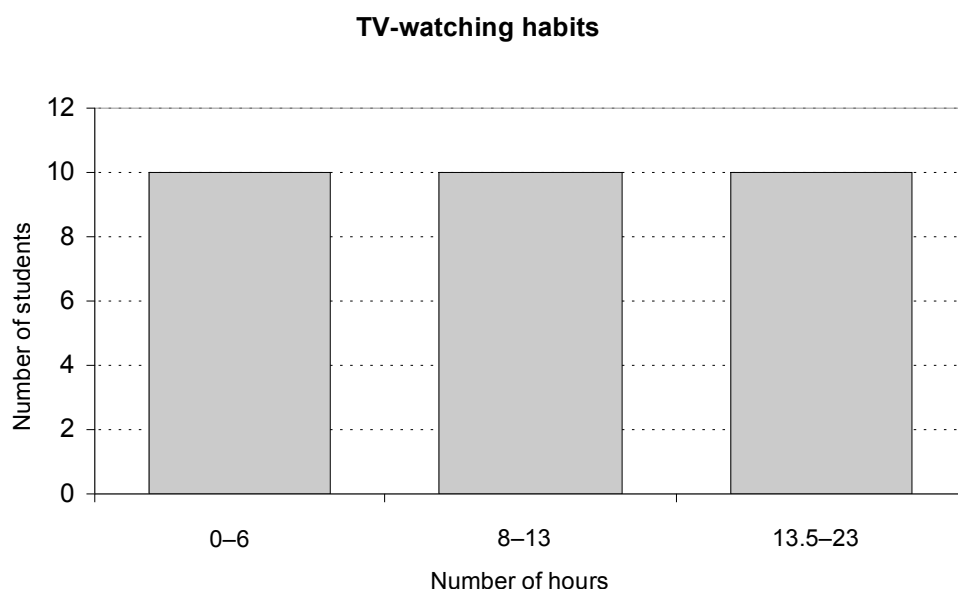
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3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group B:2 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version B

Task B:3

30 Grade 8 students at a school answered this question.

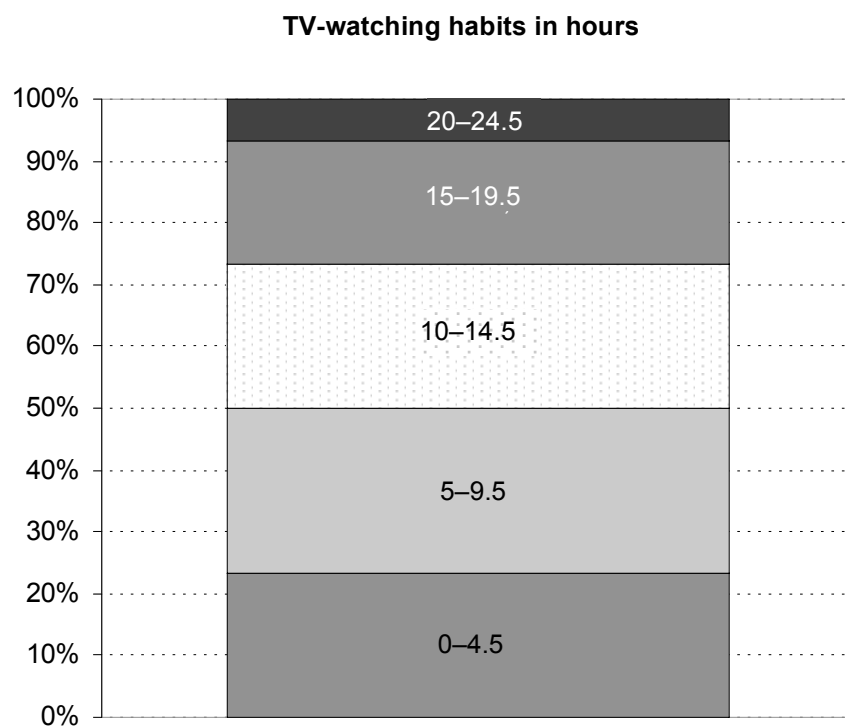
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3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group B:3 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version B

Task B:4

30 Grade 8 students at a school answered this question.

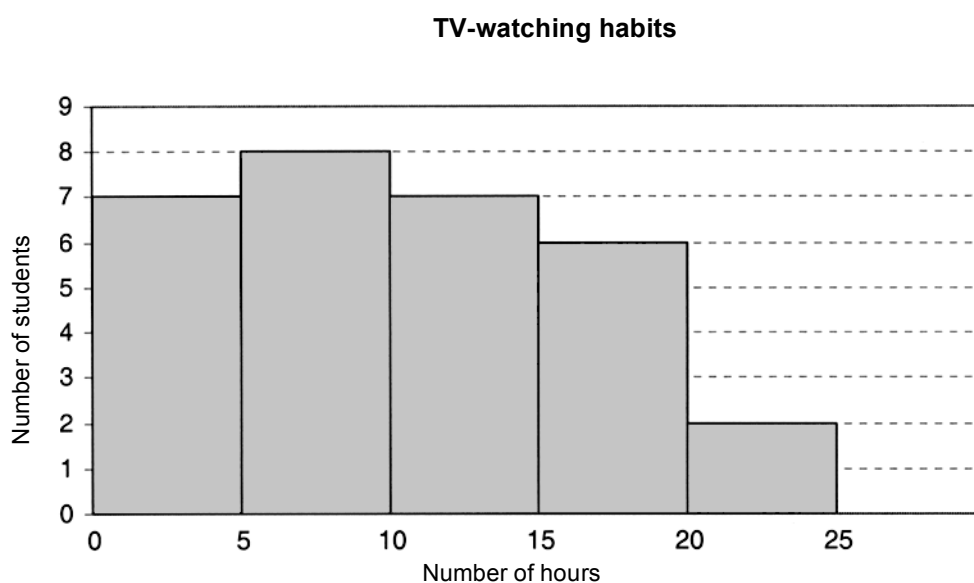
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3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group B:4 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version C

Task C:1

30 Grade 8 students at a school answered this question.

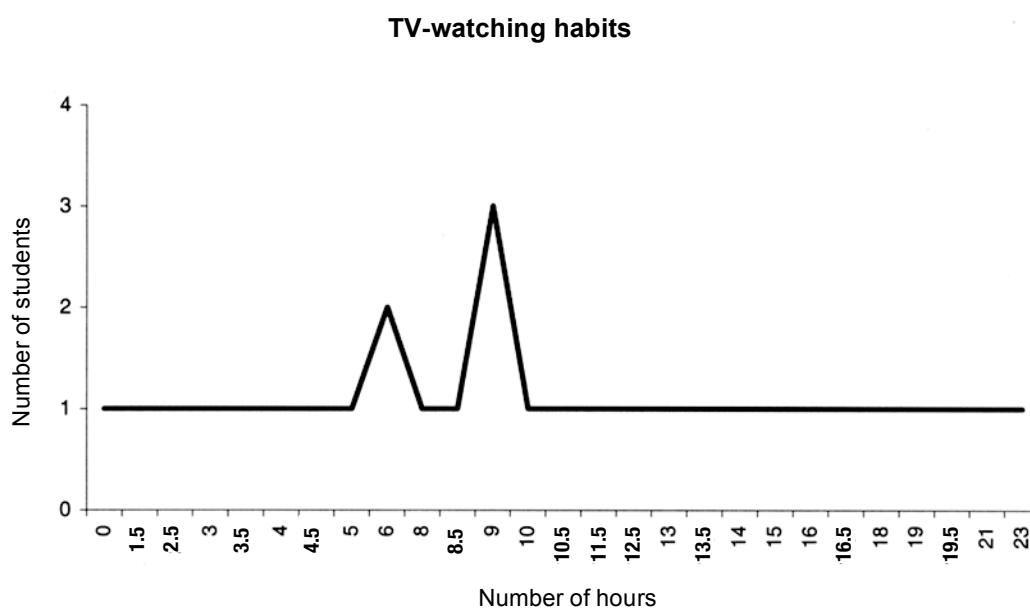
How many hours per week do you watch TV?

You can see the results of this survey in the table.

Different groups of students had the task of presenting the material clearly in the most suitable way.

0	8	13.5
1.5	8.5	14
2.5	9	15
3	9	16
3.5	9	16.5
4	10	18
4.5	10.5	19
5	11.5	19.5
6	12.5	21
6	13	23

Group C:1 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version C

Task C:2

30 Grade 8 students at a school answered this question.

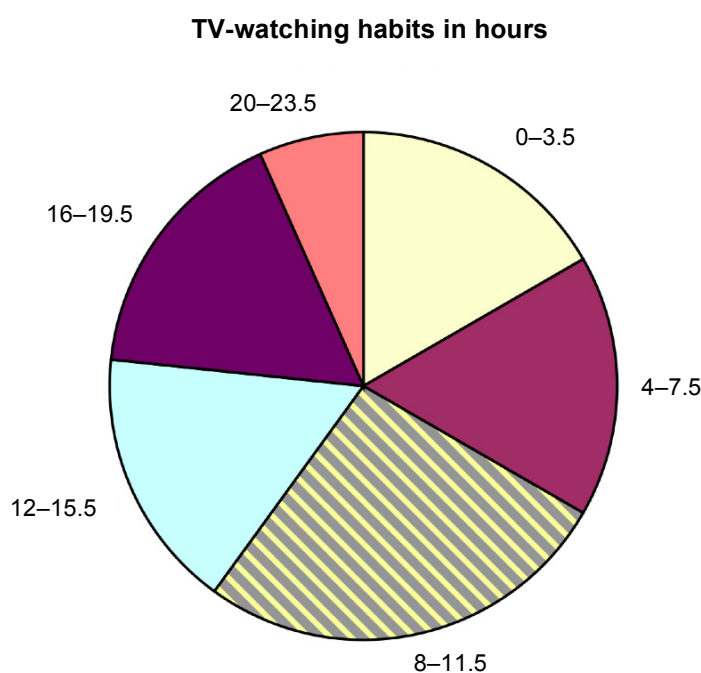
How many hours per week do you watch TV?

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6	12.5	21
6	13	23

Group C:2 made the following diagram:



- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
- What advantages/disadvantages does the diagram have?

Version C

Task C:3

30 Grade 8 students at a school answered this question.

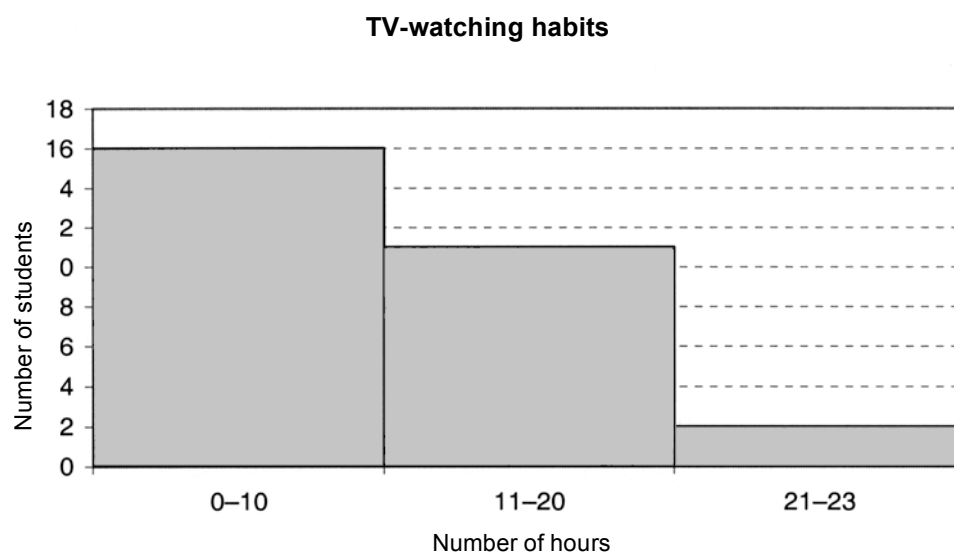
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Group C:3 made the following diagram:



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Version C

Task C:4

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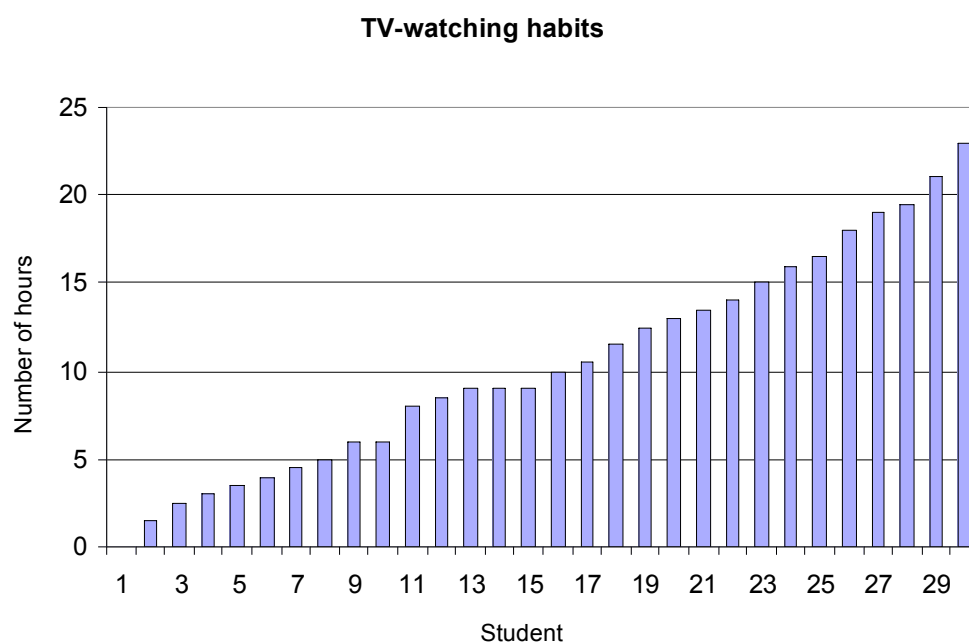
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- Study the table and the diagram and explain how the students assembled the data from the table into the diagram.
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