

1.6: Data Collection Experiment (Worksheet)

Name: _____

Section: _____

Student ID#: _____

Work in groups on these problems. You should try to answer the questions without referring to your textbook. If you get stuck, try asking another group for help.

Student Learning Outcomes

- The student will demonstrate the systematic sampling technique.
- The student will construct relative frequency tables.
- The student will interpret results and their differences from different data groupings.

Movie Survey

Ask five classmates from a different class how many movies they saw at the theater last month. Do not include rented movies.

1. Record the data.
2. In class, randomly pick one person. On the class list, mark that person's name. Move down four names on the class list. Mark that person's name. Continue doing this until you have marked 12 names. You may need to go back to the start of the list. For each marked name record the five data values. You now have a total of 60 data values.
3. For each name marked, record the data.

| | | | | | | | | | | | |
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| — | — | — | — | — | — | — | — | — | — | — | — |

Order the Data

Complete the two relative frequency tables below using your class data.

Frequency of Number of Movies Viewed

| Number of Movies | Frequency | Relative Frequency | Cumulative Relative Frequency |
|------------------|-----------|--------------------|-------------------------------|
| 0 | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7+ | | | |

Frequency of Number of Movies Viewed

| Number of Movies | Frequency | Relative Frequency | Cumulative Relative Frequency |
|------------------|-----------|--------------------|-------------------------------|
| 0–1 | | | |

| Number of Movies | Frequency | Relative Frequency | Cumulative Relative Frequency |
|------------------|-----------|--------------------|-------------------------------|
| 2–3 | | | |
| 4–5 | | | |
| 6–7+ | | | |

1. Using the tables, find the percent of data that is at most two. Which table did you use and why?
2. Using the tables, find the percent of data that is at most three. Which table did you use and why?
3. Using the tables, find the percent of data that is more than two. Which table did you use and why?
4. Using the tables, find the percent of data that is more than three. Which table did you use and why?

Discussion Questions

1. Is one of the tables “more correct” than the other? Why or why not?
2. In general, how could you group the data differently? Are there any advantages to either way of grouping the data?
3. Why did you switch between tables, if you did, when answering the question above?

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