



Class 9 Maths – Ganita Manjari



Chapter 10: How Quantities Combine: Understanding Data



Exercise Set 10.5 – Questions & Solutions

1. Smart Watch Data

Question:

The smart watch data of 5 people was tracked from Monday to Friday. The recorded data tells us how many hours each person spent lying down, sitting, and standing or moving around, etc., as shown in the following table.

Table 10.3: Average number of hours spent per day (Monday–Friday) lying down, sitting, and standing or moving around, etc., of 5 people

Person	Lying down	Sitting	Standing or Moving around etc.
Pavani (Patient)	20	3	1
Raghu (Nurse)	7	4	13
Zakir (Teacher)	8	6	10
Sahana (Student)	—	—	—
Julie (_____)	8	10	6

(i) How much time does Sahana spend per day in each of these body-states? Make a reasonable guess and fill her row in the table.

Solution:

The three entries should add up to **24 hours**.

Since the question asks us to **make a reasonable guess**, there is no single fixed answer.

For example, we may take:

- Lying down = **8 hours**
- Sitting = **8 hours**
- Standing or moving around = **8 hours**

Check:

$$8 + 8 + 8 = \mathbf{24 \text{ hours}}$$

So one reasonable completion is:

Person	Lying down	Sitting	Standing or Moving around etc.
Sahana (Student)	8	8	8

✅ **Answer: Any reasonable values adding up to 24 hours are acceptable.**

(ii) **Guess Julie's Activity or Work**

Question:

Guess what activity or work Julie could be engaged in based on the data. Find out what your classmates' guesses are.

Solution:

Julie spends approximately:

- **8 hours lying down**
- **10 hours sitting**
- **6 hours standing or moving around**

Since she spends a large amount of time **sitting**, one reasonable guess is that Julie could be engaged in work that involves **sitting for long periods**, such as office work or studying.

However, this is an **open-ended question**, so different reasonable guesses are possible.

✓ **Answer:** A reasonable guess is that Julie may be engaged in an activity or job involving prolonged sitting.

(iii) Complete the Chart

Question:

Complete the chart below based on the tabular data.

The chart is a **100% stacked bar chart**, so each person's total of 24 hours is represented as **100%**.

Pavani

Total = 20 + 3 + 1 = **24 hours**

- Lying down = $(20/24) \times 100 = \mathbf{83.33\%}$
- Sitting = $(3/24) \times 100 = \mathbf{12.5\%}$
- Standing/Moving = $(1/24) \times 100 = \mathbf{4.17\%}$

Raghu

Total = 7 + 4 + 13 = **24 hours**

- Lying down = $(7/24) \times 100 = \mathbf{29.17\%}$
- Sitting = $(4/24) \times 100 = \mathbf{16.67\%}$
- Standing/Moving = $(13/24) \times 100 = \mathbf{54.17\%}$

Zakir

Total = 8 + 6 + 10 = **24 hours**

- Lying down = $(8/24) \times 100 = \mathbf{33.33\%}$
- Sitting = $(6/24) \times 100 = \mathbf{25\%}$
- Standing/Moving = $(10/24) \times 100 = \mathbf{41.67\%}$

Sahana

Using the example guess of 8, 8 and 8 hours:

- Lying down = **33.33%**
- Sitting = **33.33%**

- Standing/Moving = **33.33%**

Julie

Total = 8 + 10 + 6 = **24 hours**

- Lying down = $(8/24) \times 100 = \mathbf{33.33\%}$
- Sitting = $(10/24) \times 100 = \mathbf{41.67\%}$
- Standing/Moving = $(6/24) \times 100 = \mathbf{25\%}$



Chart Data

Person	Lying Down	Sitting	Standing/Moving
Pavani	83.33%	12.5%	4.17%
Raghu	29.17%	16.67%	54.17%
Zakir	33.33%	25%	41.67%
Sahana*	33.33%	33.33%	33.33%
Julie	33.33%	41.67%	25%

*Sahana's values are based on one reasonable guess; other answers are possible.



Key Point

A **100% stacked bar chart** shows how the total **24 hours** is divided among different activities. It allows us to compare the **proportions** of time spent in each body-state.