Unit 14 · Presentation of Data

HARDER PRACTICE QUESTIONS

Full marks 32

Write your answers on separate paper. Show your working. Draw every bar diagram on squared paper, with a title, a scale and names for both axes. The schools, shops and numbers on this sheet are made up for the problems.

1 The missing row [3]

40 students of a class voted for their class monitor. Two slips were left blank. The tally marks were counted like this:

- Nisha: two bundles of five and one more stroke;
- Rohan: the row was smudged and can't be read;
- Aisha: one bundle of five and four more strokes;
- Dipesh: one bundle of five and one more stroke.

i. How many votes did Nisha, Aisha and Dipesh get?
ii. How many votes did Rohan get?
iii. Who won, and by how many votes?

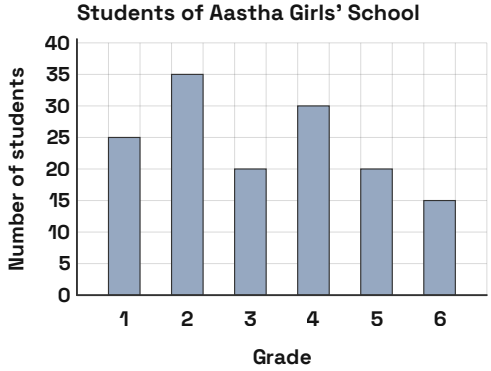
2 Find the counting mistake [3]

Ujwal asked 20 friends, "Which game do you like most?" These are their answers:
football, cricket, football, volleyball, cricket, football, basketball, cricket, football, volleyball, football, cricket, football, basketball, volleyball, football, cricket, football, volleyball, cricket
He made this table.

Game	Number of friends
Football	8
Cricket	7
Volleyball	4
Basketball	2

i. Without counting the list again, how can you tell that his table is wrong?
ii. Find the wrong row, and give the right number.

3 The school next year [4]



The bar diagram shows the students in each grade of a school.

i. How many students are there in the school?
ii. 1 square up stands for 5 students. How many squares tall is the Grade 2 bar?

iii. Next year, every student moves up one grade and no one leaves, except Grade 6, who go to another school. 30 new students join Grade 1. Copy and complete the table for next year.

Grade	1	2	3	4	5	6
Students next year	.....	.....	.....	.....	.....	.....

iv. Which grade will have the most students next year?

4 Choose the scale [4]

Five schools planted trees in a week: Janata School 120, Saraswati School 80, Himalaya School 200, Bhanu School 140, Shanti School 60. Your squared paper is only 12 squares tall.

i. Why can't you use 1 square for 10 trees?
ii. Which is the better scale, 1 square for 20 trees or 1 square for 50 trees? Give a reason.
iii. Draw the bar diagram with the better scale.

5 What is wrong with the diagram? [4]

Rishav drew a bar diagram of the rice his family harvested: 40 sacks in 2078, 30 in 2079, 45 in 2080 and 35 in 2081. He numbered his vertical axis 20, 25, 30, 40, 45, one number on each line, starting with 20 on the bottom line. He drew the 2080 bar wider than the others, because it was the best year.

i. On his diagram, how many squares tall are the 2079 bar and the 2080 bar? Does the picture show that 45 is one and a half times 30?
ii. Write three mistakes he made, and how to correct each.

6 Won in neither class [4]

Classes 5A and 5B voted for the game for their sports day.

Game	5A	5B
Football	12	6
Cricket	11	12
Volleyball	5	13

i. Which game won in each class?
ii. Make one table for both classes together.
iii. Which game wins when both classes are counted together?
iv. Bibisha says: "A game that won in neither class can't win in both together." Is she right? Explain.

7 From a bill to bars [4]

A tea shop sold these in one day: 60 cups of tea at Rs. 25 a cup, 20 cups of coffee at Rs. 60 a cup, 45 samosas at Rs. 20 each and 15 plates of noodles at Rs. 120 a plate.

i. Make a table of the money each item brought in, and find the total.
ii. Draw a bar diagram of the money. Choose a scale that makes every bar end on a line.
iii. Tea sold the most. Did it bring in the most money? Explain.

8 Work back from the bars [3]

In a bar diagram of the books in a library, the scale is rubbed out. The Nepali bar is 6 squares tall and stands for 30 books. The science bar is 4 squares tall, and the comics bar is 9 squares tall.

i. How many books does 1 square stand for?
ii. How many science books and comics are there?
iii. The library gets 12 atlases. How tall would their bar be? Why is it hard to draw?

9 Make your own [3]

20 students each choose one fruit: mango, apple, banana or orange. Every fruit is chosen at least once, and:

- mango is chosen twice as often as apple;
- banana and orange are chosen the same number of times;
- mango is **not** the most chosen.

i. Find how many chose each fruit. Show how you found it.
ii. Write a list of 20 answers that fits, and check it with a table.