Unit 5 · Spreadsheets and Data

WORKSHEET

Full marks 37

Name _____ Class _____ Roll no. ____ Date _____ Marks _____ / 37

1 Key words [4]

Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

absolute reference	bias	cleaning	criterion	extrapolation	fill handle	granularity	profit	relative reference	trend line

An address in a formula that moves when the formula is copied, like `B2`, is a _____. An address fixed with `$` signs, like `$B$20`, is an _____. The small square at the corner of a cell, dragged down to copy a formula, is the _____. In COUNTIF, the rule a row must match is the _____. Finding and fixing messy answers is called _____ the data. A line drawn through the middle of the dots on a scatter chart is a _____, and predicting far outside the data is called _____. Anything that tilts the data one way, so it no longer stands for what you wanted to know about, is _____.

2 Multiple choice [5]

Choose the correct option for each of the following questions.

i. A2 holds 5 and B2 holds 3. What does `=A2+B2*2` give? [1]

a. 16 **b.** 11
c. 10 **d.** 13

ii. C2 holds `=A2*$B$1`. It is copied into C5. What does C5 hold? [1]

a. `=A2*$B$1` **b.** `=A5*$B$1`
c. `=A5*$B$4` **d.** `=A5*B4`

iii. Which formula adds up the minutes (D2:D31) of only the students who come by motorbike (column B)? [1]

a. `=SUM(D2:D31)` **b.** `=COUNTIF(B2:B31, "Motorbike")`
c. `=SUMIF(B2:B31, "Motorbike", D2:D31)` **d.** `=AVERAGEIF(B2:B31, "Motorbike", D2:D31)`

iv. In a survey, the answers to "Comes by" include "Bus", "bus" and "Bus " (with a space). Which fix is best? [1]

a. Delete the rows that say "bus". **b.** Change them all to one spelling, "Bus".
c. Leave them: the computer will understand. **d.** Change them all to "Other".

v. A trend line from students who live 1 to 5 km from school is used to predict the trip of a student 25 km away. What is the problem? [1]

a. 25 km is far outside the data, so the prediction is a guess that may be badly wrong.
b. A trend line can't predict anything.
c. The prediction will be exactly right.
d. Scatter charts only work for distances under 10 km.

3 True or false [3]

Write True or False after each sentence.

i. Filtering hides rows without deleting them. ☐

ii. `=SUM(D2:D31)` adds up only the rows that a filter shows. ☐

iii. A missing trip time should be filled in with 0. ☐

iv. Writing a guess of “about 20 minutes” as 20.0 doesn’t make it more accurate. ☐

v. A trend shows that two things go together, but it doesn’t prove that one causes the other. ☐

vi. Ages recorded as groups, such as 13–15, can give the students’ average age. ☐

4 Copying formulas [3]

Write short answers to the following questions.

A tea shop’s sheet has prices in column B and numbers sold in column C, for items in rows 2 to 8. D2 holds `=B2*C2`, and the day’s total is in D9.

i. D2 is copied down to D5. What does D5 hold?

ii. Hari writes `=D2/D9*100` in E2 for milk tea’s share of the day’s money, and copies it down. What does E3 hold, and why is its answer wrong?

iii. Write the formula Hari should have written in E2.

5 Group and summarize [6]

Write the formulas.

a. A survey of 40 students has the house each belongs to (Everest, Kanchenjunga, Lhotse, Makalu) in B2:B41 and their marks in a quiz in C2:C41. Write formulas to find i. how many students are in Everest house, ii. the total marks of Lhotse house, iii. the average mark of Makalu house, and iv. how many students scored 15 or more. [4]

b. The four house names are typed in F2:F5. Write one formula for G2 that counts the students in the house named in F2, and that can be copied down to G5 to count the other three houses. Explain why it needs $ signs. **[2]**

6 Messy data [4]

Read the table, then answer.

Here are some answers from an online form. Name the problem in each row and say how you would fix it.

Name	Comes by	km	Minutes
Sita	walking	1.5	20
Ram	Bicycle	2 km	12
Nima	Bus	6	
Sabina	Walk	1	200
Ram	Bicycle	2 km	12

7 Calculations [3]

Show your working.

Rina's family gets Rs 30,000 a month. They spend Rs 8,000 on rent, Rs 12,000 on food, Rs 3,000 on school fees, Rs 2,000 on electricity and gas, and Rs 1,500 on phone and internet.

i. How much goes out in a month?
ii. How much is left to save?
iii. The rent rises to Rs 9,500. How much is left now?

Answer: _____

8 Trends [3]

Write short answers to the following question.

For 10 days, a shop wrote down the highest temperature and the number of cold drinks sold. The scatter chart shows a clear trend: hotter days, more cold drinks. i. Describe the trend in words. ii. How could the shop use it? iii. Give one limit of a prediction from it.

9 Long answer [4]

Write a long answer to the following question.

A student surveyed 15 friends in her own class through a messaging app, asking “Don’t you agree that our school day is too long?” She reports: “Most students in Nepal think the school day is too long.” List four problems with her investigation, and rewrite her finding honestly.

10 Think [2]

Think, then answer.

A newspaper finds that in weeks when more ice cream is sold, more people drown. It says: “Ice cream is dangerous: stop selling it near rivers.” What is wrong with its reasoning? What else could explain the trend?

11 Activity: Plan a week's money

(not marked)

Plan how you would spend a week's pocket money (or Rs 500, if you get none). Write what you plan for each thing, then for a week write down what you really spend. Fill in the totals the way a spreadsheet would: Total out is the sum of the rows above it, and Left is Money in − Total out.

	Planned (Rs)	Really spent (Rs)
Money in		
Snacks		
Stationery		
Bus fares		
Other:		
Total out		
Left		