LESSON MAKER PRO

Data in Rows

Organize information and name matrix dimensions.

HIGH SCHOOL · A2.N.2.1

A2.N.2.1 "Use matrices to organize and represent data. Identify the order (dimension) of a matrix."

NAME _____ DATE _____

ROWS BEFORE COLUMNS

A matrix arranges numbers in rows and columns. Its order is the number of rows by the number of columns, in that order. When you use a labeled table to make a matrix, include only the data cells, not the labels.

WORKED EXAMPLE

A café counts orders on Saturday and Sunday. The table shows the counts. Write a matrix with Saturday as the first row and Sunday as the second row, then give its order.

CAFÉ ORDERS

Morning	Afternoon
37	42
51	68

1. Read across the Saturday row: 37, 42.
2. Read across the Sunday row: 51, 68.
3. There are 2 rows and 2 columns.

Answer: Matrix: [[37, 42], [51, 68]]. Order: 2 by 2.

PRACTICE 6 problems

1 What is the order of the data matrix shown in the table?

CLASS CHOICES

Music	Art
8	5
6	9
4	7

ANSWER _____

2 What is the order of the data matrix? What number is in row 2, column 3?

RECORDED SCORES

Round A	Round B	Round C
3	12	15
10	14	18

ANSWER _____

3 A school fair sold tickets on Friday and Saturday. Friday sales were 21 early and 24 late. Saturday sales were 28 early and 30 late. Write a matrix with days as rows in the order given and early, late as columns. Give its order.

ANSWER _____

4 What is the order of the data matrix? What number is in row 3, column 2?

PRACTICE RESULTS

Try A	Try B	Try C
2	11	17
5	13	20
19	22	23
25	26	27

ANSWER _____

5 Team Red completed 31, 32, and 33 laps on Monday, Tuesday, and Wednesday. Team Blue completed 34, 35, and 36 laps on those days. Write a matrix with Red and Blue as rows and the days as columns in the order given. Give its order.

ANSWER _____

6 The rows show Stream A, Stream B, and Stream C, from top to bottom. How many songs are in Stream C? What is the order of the data matrix?

AUDIO STREAMS

Songs	Podcasts
40	41
43	44
45	46

ANSWER _____

APPLY IT Show your work

1 You track time spent editing videos and playing games on Wednesday and Thursday. On Wednesday, you edit for 50 minutes and play for 70 minutes. On Thursday, you edit for 60 minutes and play for 80 minutes. Write a matrix with days as rows and editing, gaming as columns. Give its order and explain what the entry in row 2, column 1 means.

WORK SPACE

ANSWER _____

2 A student club sold shirts and stickers at three pop-up sales. The table lists the sales in order from first to third. Write a matrix with sales as rows and shirts, stickers as columns. Give its order. How many fewer stickers were sold at the third sale than at the first?

CLUB SALES

Shirts	Stickers
12	29
15	24
18	21

ANSWER _____

CHALLENGE One step up

A club tracks attendance at three meetings for Coding and Film. Coding attendance was 7, 9, and 12 at Meetings 1, 2, and 3. At each meeting, Film attendance was 4 more than Coding attendance. Write a matrix with meetings as rows and Coding, Film as columns. Explain why its order is 3 by 2, not 2 by 3.

WORK SPACE AND ANSWER

ANSWER KEY

Data in Rows

HIGH SCHOOL · A2.N.2.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	What is the order of the data matrix shown in the table?	**3 by 2**
2	What is the order of the data matrix? What number is in row 2, column 3?	**Order: 2 by 3. Row 2, column 3: 18.**
3	A school fair sold tickets on Friday and Saturday. Friday sales were 21 early and 24 late. Saturday sales were 28 early and 30 late. Write a matrix with days as rows in the order given and early, late as columns. Give its order.	**Matrix: [[21, 24], [28, 30]]. Order: 2 by 2.**
4	What is the order of the data matrix? What number is in row 3, column 2?	**Order: 4 by 3. Row 3, column 2: 22.**
5	Team Red completed 31, 32, and 33 laps on Monday, Tuesday, and Wednesday. Team Blue completed 34, 35, and 36 laps on those days. Write a matrix with Red and Blue as rows and the days as columns in the order given. Give its order.	**Matrix: [[31, 32, 33], [34, 35, 36]]. Order: 2 by 3.**
6	The rows show Stream A, Stream B, and Stream C, from top to bottom. How many songs are in Stream C? What is the order of the data matrix?	**Stream C has 45 songs. Order: 3 by 2.**

PART 2 · APPLY IT

1. **Matrix: [[50, 70], [60, 80]]. Order: 2 by 2. The entry in row 2, column 1 means 60 minutes spent editing videos on Thursday.** Place each day's editing and gaming times in one row. The second row represents Thursday, and the first column represents editing.
2. **Matrix: [[12, 29], [15, 24], [18, 21]]. Order: 3 by 2. The third sale had 8 fewer sticker sales.** Copy the three data rows into the matrix. Compare the sticker entries in rows 1 and 3: 29 - 21 = 8.

CHALLENGE

Matrix: [[7, 11], [9, 13], [12, 16]]. Its order is 3 by 2 because the three meetings make three rows and the two activities make two columns.

Accept standard matrix notation in place of nested brackets if the row breaks and entry order are clear. Dimensions must state rows before columns.