

Table Talk

Use totals and relative frequencies to compare data.

HIGH SCHOOL • MA.912.DP.1

MA.912.DP.1 "Summarize, represent and interpret categorical and numerical data with one and two variables."

NAME _____

DATE _____

CHOOSE THE RIGHT TOTAL

In a two-way table, use the total named in the question as the denominator. To compare groups, find each group's conditional relative frequency, then compare the results.

WORKED EXAMPLE

In an art club, 14 students chose painting. Of those students, 7 are ninth graders. What percent of painting students are ninth graders?

1. Use the painting total: $7/14$.
2. Simplify: $1/2$.
3. Convert to a percent: 50%.

Answer: 50%

PRACTICE 5 problems

- 1** A survey has 9 gamers and 6 non-gamers in a class of 15. What is the relative frequency of gamers?

ANSWER _____

- 2** Walk Bus 9th 2 3 10th 4 8 What fraction of bus riders are tenth graders?

ANSWER _____

- 3** Owns bike Does not own bike 9th 5 3 10th 4 8 What is the joint relative frequency of students who are ninth graders and own a bike?

ANSWER _____

- 4** Has job No job Plays a sport 12 8 Does not play a sport 3 9 Which group is more likely to have a job?

ANSWER _____

- 5** A B Total X 6 ? 17 Y 5 10 15 Find the missing value.

ANSWER _____

APPLY IT Show your work

- 1** During a study-skills project, students reported their music type and whether they passed a quiz.
- | | Passed | Did not pass |
|--------------|--------|--------------|
| Instrumental | 15 | 5 |
| Lyrics | 6 | 9 |
- Which group had the higher pass rate, and by how many percentage points?

WORK SPACE

ANSWER _____

- 2** Two students training for a dance audition tracked practice minutes on four days. Student A: 20, 25, 30, 45. Student B: 10, 30, 35, 45. Find each mean. Which student has the greater range?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Buys lunch Brings lunch 9th 18 12 10th 24 16 A student says tenth graders are more likely to buy lunch because 24 is greater than 18. Is the claim correct? Explain using conditional relative frequencies.

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A survey has 9 gamers and 6 non-gamers in a class of 15. What is the relative frequency of gamers?	3/5
2	Walk Bus 9th 2 3 10th 4 8 What fraction of bus riders are tenth graders?	8/11
3	Owens bike Does not own bike 9th 5 3 10th 4 8 What is the joint relative frequency of students who are ninth graders and own a bike?	1/4
4	Has job No job Plays a sport 12 8 Does not play a sport 3 9 Which group is more likely to have a job?	Students who play a sport
5	A B Total X 6 ? 17 Y 5 10 15 Find the missing value.	11

PART 2 · APPLY IT

- Instrumental listeners, by 35 percentage points.** Instrumental listeners passed at $15/20 = 75\%$. Lyrics listeners passed at $6/15 = 40\%$, so the difference is 35 percentage points.
- Both means are 30 minutes. Student B has the greater range, 35 minutes.** Each set totals 120, so each mean is $120/4 = 30$. The ranges are $45 - 20 = 25$ and $45 - 10 = 35$.

CHALLENGE

No. Ninth graders buy lunch at $18/30 = 3/5$, and tenth graders buy lunch at $24/40 = 3/5$. The rates are equal.

Accept equivalent fractions and percentages where appropriate. For comparison items, students must use the correct row or column total as the denominator.