

Grade 8 - Two-Way Tables and Relative Frequency - Worksheet

Common Core 8.SP.A.4 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice two-way tables, relative frequencies and association between two categorical variables (Common Core 8.SP.A.4). Each problem has its own space for work, so print the page and write directly on it.

The problems start with direct skill checks and grow harder as you go. Later items compare row percents and decide whether categories are associated. Use the answer key afterwards to check every step.

Grade 8 · Common Core State Standards: **8.SP.A.4**

Exercise 1 - Read a joint frequency

	Phone	No phone	Total
Boys	34	6	40
Girls	38	12	50
Total	72	18	90

Survey of 90 students.

How many girls in the survey have a phone?

Exercise 2 - Marginal totals

	Phone	No phone	Total
Boys	34	6	?
Girls	38	12	50
Total	?	18	?

Fill in the totals.

Find the three missing totals: the boys total, the phone total and the grand total.

Exercise 3 - Relative frequency of the total

Use the table of 90 students: what percent of all students are girls with a phone? Round to the nearest tenth.

Exercise 4 - Row relative frequency

What percent of the boys have a phone? What percent of the girls have a phone?

Exercise 5 - Column relative frequency

Of the 72 students who have a phone, what percent are boys? Round to the nearest tenth.

Exercise 6 - Compare groups

Use your answers for boys and girls: is there a strong association between gender and having a phone? Explain.

Exercise 7 - Missing cells

	Reads daily	Does not	Total
Sport	18	?	30
No sport	?	36	50
Total	?	48	80

Some entries are missing.

Find the missing numbers in the sport and reading table. The row totals are 30 and 50, the column totals are 32 and 48.

Exercise 8 - Sport and reading percents

Using the table (sport: 18 read daily, 12 do not; no sport: 14 read daily, 36 do not), find the percent of each group who read daily.

Exercise 9 - Association?

Is there an association between playing a sport and reading daily in the table? Explain with percents.

Exercise 10 - Of the daily readers

Of the students who read daily, what percent play a sport?

Exercise 11 - Three categories

	Pizza	Tacos	Salad	Total
7th grade	25	20	5	50
8th grade	35	15	10	60
Total	60	35	15	110

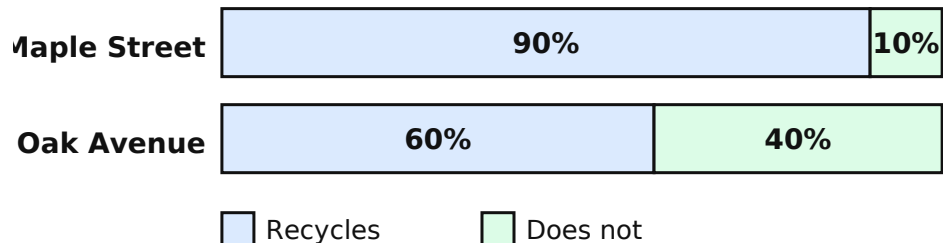
Lunch choices.

What percent of the 7th graders chose tacos? What percent of the 8th graders chose tacos?

Exercise 12 - Largest category

In the lunch survey (110 students), which lunch was most popular overall and what percent of all students chose it?

Exercise 13 - Recycling



Recycling by neighborhood.

A town surveys 50 households on each street about recycling: Maple Street 45 recycle, 5 do not; Oak Avenue 30 recycle, 20 do not. Find the percent that recycle on each street.

Exercise 14 - Recycling association

Is there an association between the street and recycling? How many percentage points apart are the two rates?

Exercise 15 - Bake sale table

At a bake sale, Ethan sold 60 items. In the morning he sold 20 muffins and 10 cookies. In the afternoon he sold 12 muffins and 18 cookies. Complete a two-way table and find what percent of the morning sales were muffins.

Exercise 16 - Build a table

Twelve students are asked: Do you have a bike? Do you walk to school? Results: both 3, bike only 5, walk only 1, neither 3. Build a two-way table and find the totals.

Exercise 17 - Reading a percent

In the phone survey, a student says 'Boys are more likely to have a phone because 34 is less than 38.' Explain why comparing the counts is misleading.

Exercise 18 - Sleep survey

	8+ hours	Under 8	Total
Grade 7	22	18	40
Grade 8	15	25	40
Total	37	43	80

Sleep survey.

Jamal surveys 80 students about sleep. Find the percent of each grade that sleeps at least 8 hours and tell whether the grades differ much.

Exercise 19 - Cause and effect

A table shows that students who play a sport read more often. Does playing a sport cause more reading? Explain.

Exercise 20 - Interpret a percent

Explain in a sentence what '60%' means in the sport and reading table.