

Two-Way Table Worksheet

Example Two-Way Table

The table below shows the results of a survey of 100 students about their preferred type of drink (Tea or Coffee) and whether they prefer it Hot or Cold.

	Hot	Cold	Total
Tea	30	20	50
Coffee	35	15	50
Total	65	35	100

Multiple Choice Questions

How many students prefer cold drinks?

- a) 15 b) 20 c) 35 d) 50

What is the probability that a randomly selected student prefers hot coffee?

- a) 0.15 b) 0.30 c) 0.35 d) 0.50
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Fill in the Blank Questions

[Word Bank: marginal, conditional, 35, 50]

The total number of students who prefer coffee is _____.

The probability that a student prefers a hot drink given they like tea is an example of a _____ probability.

Short Answer Questions

Explain how a two-way table can be used to determine if there is an association between two variables.

Calculate the probability that a randomly selected student prefers tea, given that they prefer a cold drink.

True/False Questions

True or False: The sum of all the frequencies in a two-way table is equal to the total number of observations.

True or False: In the example above, more students prefer cold drinks than hot drinks.

Maths with Melissa

Answer Key

Multiple Choice Answers

1. c) 35
2. c) 0.35

Fill in the Blank Answers

1. 50
2. conditional

Short Answer Answers

1. A two-way table allows you to compare the frequencies of different combinations of two variables, making it possible to see if changes in one variable are associated with changes in the other.
2. $\text{Probability} = (\text{Number who prefer tea and cold}) / (\text{Number who prefer cold}) = 20/35 \approx 0.571$

True/False Answers

1. True
2. False – 65 students prefer hot drinks, which is more than the 35 who prefer cold drinks.