

Two-Way Tables



Complete two-way tables, and find probabilities including AND/OR and conditional (given).

Name _____

Date _____

Show your method

A missing cell = row total minus the other cells in that row (or column total minus the other cells in that column). Probability = count ÷ total. For "given", divide by that row's or column's own total, not the grand total.

Worked example Find P(Right-handed AND Swimming) from this table.

Sport	Football	Swimming	Total
Left	4	6	10
Right	14	16	30
Total	18	22	40

Right-handed AND Swimming: 16

Grand total: 40

$$P = \frac{16}{40} = \frac{2}{5}$$

1. Complete the missing Right-Football cell.

Sport	Football	Swimming	Total
Left	4	6	10
Right		16	30
Total	18	22	40

2. How many students are there in total?

3. How many prefer Swimming in total?

4. How many Left-handed students are there in total?

5. Find P(Left-handed AND Football).

6. Find P(prefers Swimming), any-handedness.

7. Given Left-handed, find P(Football).

8. Given Right-handed, find P(Football).

9. Is P(Football) higher for Left- or Right-handed students?

Two-Way Tables (continued)

A bigger table, AND/OR probabilities, and comparing conditional rates.



Name _____

Date _____

10. Complete the missing Class B/Fail cell

Result	Pass	Fail	Total
Class A	18	2	20
Class B	15		20
Class C	12	8	20
Total	45	15	60

11. How many students in total, across all three classes?

12. Find $P(\text{Pass})$, across all classes, as a decimal (2 d.p.).

13. Given Class A, find $P(\text{Pass})$.

14. Given Class C, find $P(\text{Pass})$.

15. Which class has the highest pass rate?

16. Find $P(\text{Class A OR Pass})$.

17. How many are NEITHER in Class A NOR passed?

18. Find $P(\text{neither Class A nor Pass})$, using Q17.
