

67. How to fill in the missing information in a two-way table.



Scenario Questions:

1. The two way table compares the methods of travel to work from two different cities. Complete the table to answer:

- What is the probability that a participant was from Birmingham?
- What is the probability a participant from London took the train?

		Commuting method			
		Car	Bus	Train	Total
City	Birmingham		20	21	60
	London	7		40	
	Total	26	33		120

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Scenario Questions:

2. The two-way table shows the results from a test taken at a college by students in either year 1 and year 2 of their course. Complete the table to answer:

- What is the probability that someone in year 1 passed?
- What is the probability that of the people who failed they were in their first year?

		Exam Result		
		Pass	Fail	Total
College Group	Year 1	22		55
	Year 2		24	
	Total	33	57	

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Scenario Questions:

3. The two way table shows the results of students who took both maths and English exams. Complete the table to answer:

- What is the probability someone passed both exams?
- What is the probability that someone who passed maths failed English?

		Maths		
		Pass	Fail	Total
English	Pass		6	
	Fail	9		19
	Total		16	30

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Scenario Questions:

4. The two way table compares forms of exercise used by people in their 20's compared to people in their 30's. Complete the table to answer:

- What is the probability that a random participant was in their 30's and liked to cycle?
- What is the probability a participant in their 30's liked to cycle?

		Exercise			
		Run	Swim	Cycle	Total
Age	18 - 30	23	67		
	30 - 40				102
	Total		144	28	200

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Scenario Questions:

5. Barry made predictions on if football team winning or losing. The table shows the outcomes of those predictions. Complete the table to answer:

- How many games did Barry predict the football team would win?
- What is the probability that a game Barry predicted as a loss would turn out to be a win?

		Result		
		Win	Lose	Total
Prediction	Win	19		101
	Lose		11	
	Total	107		200

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Scenario Questions:

6. A poll was conducted at a local park amongst adults and children as to if they preferred cats or dogs. Complete the table to answer:

- What is the probability someone chose at random was a child that preferred dogs?
- What is the probability that an adult preferred cats?

		Preference		
		Cats	Dogs	Total
Age	Adult		7	
	Child	5		9
	Total	9	11	

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Scenario Questions:

7. The two way table shows the results of a chess tournament. Complete the table to answer:

- What is the probability that a participant chosen at random was over 60 and lost?
- What is the probability a participant who won was under 60?

		Score			
		Win	Lose	Draw	Total
Age	Under 60	2		4	
	Over 60	6	7	8	21
	Total		10		30

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Scenario Questions:

8. The two-way table shows the holiday destinations of a group adults and whether or not they went on holiday with children.

- What is the probability a random participant had a holiday at home with children?
- What is the probability that someone that went abroad had children?

		Holiday type		
		Home	Abroad	Total
Children	Yes		38	
	No	14		68
	Total		92	200

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Scenario Questions:

9. The two way table shows how many hours of driving lessons a person has had and whether or not they passed their driving test

- What is the probability that someone passed their driving test with less than 20 hours?
- What is the probability that of those that failed they had more than twenty hours of lessons?

Driving test

Hours of lessons	Driving test		
	Pass	Fail	Total
Under 20			101
Over 20	23		
Total	76	93	169

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Scenario Questions: **Answers**

1. The two way table compares the methods of travel to work from two different cities. Complete the table to answer:

- What is the probability that a participant was from Birmingham?
- What is the probability a participant from London took the train?

1. a. 60/120. b. 40/60.

2. The two-way table shows the results from a test taken at a college by students in either year 1 and year 2 of their course. Complete the table to answer:

- What is the probability that someone in year 1 passed?
- What is the probability that of the people who failed they were in their first year?

2. a. 22/55. b. 33/57

5. The two way table shows the results of students who took both maths and English exams. Complete the table to answer:

- What is the probability someone passed both exams?
- What is the probability that someone who passed maths failed English?

3. a. 5/30. b. 9/14

		Commuting method			
		Car	Bus	Train	Total
City	Birmingham	19	20	21	60
	London	7	13	40	60
	Total	26	33	61	120

		Exam Result		
		Pass	Fail	Total
College Group	Year 1	22	33	55
	Year 2	11	24	35
	Total	33	57	90

		Maths		
		Pass	Fail	Total
English	Pass	5	6	11
	Fail	9	10	19
	Total	14	16	30

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Scenario Questions: **Answers**

4. The two way table compares forms of exercise used by people in their 20's compared to people in their 30's. Complete the table to answer:

- a. What is the probability that a random participant was in their 30's and liked to cycle?
- b. What is the probability a participant in their 30's liked to cycle?

4. a. 8/200. b. 20/102

5. Barry made predictions on if football team winning or losing. The table shows the outcomes of those predictions. Complete the table to answer:

- a. How many games did Barry predict the football team would win?
- b. What is the probability that a game Barry predicted as a loss would turn out to be a win?

5. a. 101 games b. 88/99.

6. A poll was conducted at a local park amongst adults and children as to if they preferred cats or dogs. Complete the table to answer:

- a. What is the probability someone chose at random was a child that preferred dogs?
- b. What is the probability that an adult preferred cats?

6. a. 4/20. b. 4/11.

		Exercise			
		Run	Swim	Cycle	Total
Age	18 - 30	23	67	8	98
	30 - 40	5	77	20	102
	Total	28	144	28	200

		Result		
		Win	Lose	Total
Prediction	Win	19	82	101
	Lose	88	11	99
	Total	107	93	200

		Preference		
		Cats	Dogs	Total
Age	Adult	4	7	11
	Child	5	4	9
	Total	9	11	20

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Scenario Questions: **Answers**

7. The two way table shows the results of a chess tournament. Complete the table to answer:

- a. What is the probability that a participant chosen at random was over 60 and lost?
- b. What is the probability a participant who won was under 60?

7. a. $7/30$. b. $2/8$.

8. The two-way table shows the holiday destinations of a group adults and whether or not they went on holiday with children.

- a. What is the probability that someone chosen at random had a holiday at home with children?
- b. What is the probability that someone that went abroad had children?

8. a. $94/200$. b. $38/92$

9. The two way table shows how many hours of driving lessons a person has had and whether or not they passed their driving test

- a. What is the probability that someone chosen at random passed their driving test with less that 20 hours?
- b. What is the probability that of those that failed they had more than twenty hours of lessons?

9. a. $53/169$. b. $45/93$

		Score			
		Win	Lose	Draw	Total
Age	Under 60	2	3	4	9
	Over 60	6	7	8	21
	Total	8	10	12	30

		Holiday type		
		Home	Abroad	Total
Children	Yes	94	38	132
	No	14	54	68
	Total	108	92	200

		Driving test		
		Pass	Fail	Total
Hours of lessons	Under 20	53	48	101
	Over 20	23	45	68
	Total	76	93	169