



## Foundation / Higher Tier

# Two-way tables

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.

### Information

- The marks for **each** question are shown in brackets- *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

1. The two way table gives information about whether 60 students prefer maths or English

	Maths	English	Total
Boys	16		26
Girls		18	
Total	32		60

(a) Complete the two way table

(3)

One of the students is picked at random.

(b) Write down the probability this student is a boy who prefers English.

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(1)

(Total for Question 1 is 4 marks)

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2. In a survey of 80 people, each person is either a driver or non-driver, and each person prefers either tea or coffee.

	Tea	Coffee	Total
Driver		21	35
Non-driver	29		
Total	43		80

- (a) Complete the two way table

(3)

One of the people is picked at random.

- (b) Write down the probability this person prefers coffee.

.....  
(1)

(Total for Question 2 is 4 marks)

3. At a cinema, 120 people were surveyed. Each person was either an adult or a child, and each person chose either popcorn or nachos.

	Popcorn	Nachos	Total
Adult	48		65
Child		27	
Total		44	120

- (a) Complete the two way table

(3)

One of the people is picked at random.

- (b) Given this person is a child, write down the probability this person likes nachos.

.....  
(1)

(Total for Question 3 is 4 marks)

4. 160 people visited a supermarket. Each person is either a member or a non-member, and each person chose one type of payment: cash, card or mobile pay.

90 people are members.

70 people paid by card.

40 people paid by cash.

25 members paid by cash.

30 members paid by card.

20 non-members used mobile pay.

	Cash	Card	Mobile Pay	Total
Member				
Non-member				
Total				

Complete the two way table

(3)

(Total for Question 4 is 3 marks)

5. At a school, 90 students were asked about the sport they prefer. Each student prefers either football or basketball, and each student is either in Year 10 or Year 11.

52 students are in Year 10.

34 students prefer football.

20 Year 10 students prefer football.

Find the number of Year 11 students who prefer basketball.

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**(Total for Question 5 is 4 marks)**

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6. In a survey of 120 people, each person is either employed or unemployed, and each person either owns a car or does not own a car.

70 people are employed.

65 people own a car.

50 employed people own a car.

How many more unemployed people do not own a car than employed people who do not own a car?

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**(Total for Question 6 is 4 marks)**

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7. In a survey of 150 students, each student is either in Year 10 or Year 11.

Each student chose their favourite science subject from biology, chemistry or physics.

The results are shown below:

- 80 students are in Year 10.
- 45 students chose Biology.
- 28 Year 10 students chose Biology.
- 30 Year 10 students chose Chemistry.
- 22 Year 11 students chose Physics.

How many Year 11 students chose Biology?

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**(Total for Question 7 is 4 marks)**

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8. At a gym, 180 members were asked which type of class they attend most often.

Each member is either a morning member or an evening member.

The class types are yoga, spin and weights

The results showed that:

- 95 members attend in the morning.
- 60 members attend yoga classes.
- 50 members attend spin classes.
- 20 morning members attend yoga.
- In the evening, twice as many members attend weights as attend spin.

How many evening members attend weights classes?

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**(Total for Question 8 is 4 marks)**

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