



**Bishops  
Online  
Tutoring**



Education Consultancy

# Edexcel GCSE Mathematics

## TWO-WAY TABLES

### Materials Required:

- Pen
- HB Pencil
- Ruler (in centimetres and millimetres)
- Protractor
- Compass

### Information:

- The marks allocated for each question are displayed within brackets – utilise this information to gauge the appropriate amount of time to dedicate to each question
- Questions marked with an asterisk (\*) will assess your written communication; be careful of spelling, punctuation and grammar with these questions

### Instructions:

- Use a black ink pen to answer all questions
- Fill your name in the section below
- Answer the questions in the spaces provided
- Show your working out for all answers

### Advice:

- Carefully read the question before attempting to answer it
- Be vary of time and try to answer every question
- If you have enough time in the end, go back and check your answers. A good way to check your answers is to retry the question with the hope of getting the same answer as before without looking at your working out from before

# NO CALCULATOR ALLOWED

**NAME:**

|  |
|--|
|  |
|--|

1. The two-way table shows some information about the number of students in a school.

|       | Year Group |     |     | Total |
|-------|------------|-----|-----|-------|
|       | 9          | 10  | 11  |       |
| Boys  | 149        | 133 | 125 | 407   |
| Girls | 154        | 123 | 147 | 424   |
| Total | 303        | 256 | 272 | 831   |

Complete the two-way table.

---

(3 marks)

2. A factory makes three sizes of bookcase.  
The sizes are small, medium and large.

Each bookcase can be made from pine or oak or yew.

The two-way table shows some information about the number of bookcases the factory makes in one week.

|       | Small | Medium | Large | Total |
|-------|-------|--------|-------|-------|
| Pine  | 7     | 12     | 4     | 23    |
| Oak   | 10    | 16     | 8     | 34    |
| Yew   | 3     | 8      | 2     | 13    |
| Total | 20    | 36     | 14    | 70    |

Complete the two-way table.

---

(3 marks)

3. The two-way table gives some information about how 100 children travelled to school one day.

|       | Walk | Car | Other | Total |
|-------|------|-----|-------|-------|
| Boy   | 15   | 25  | 14    | 54    |
| Girl  | 22   | 8   | 16    | 46    |
| Total | 37   | 33  | 30    | 100   |

- (a) Complete the two-way table.

(3)

One of the children is picked at random.

- (b) Write down the probability that this child walked to school that day.

$$\frac{37}{100}$$

(1)

One of the girls is picked at random.

- (c) Work out the probability that this girl did **not** walk to school that day.

$$\frac{24}{46}$$

(2)

(6 marks)

4. The two-way table gives some information about what 100 children ate at school one day.

|       | Beef | Chicken | Fish | Total |
|-------|------|---------|------|-------|
| Boy   | 19   | 17      | 17   | 53    |
| Girl  | 8    | 14      | 25   | 47    |
| Total | 27   | 31      | 42   | 100   |

- (a) Complete the two-way table.

(3)

One of the children is picked at random.

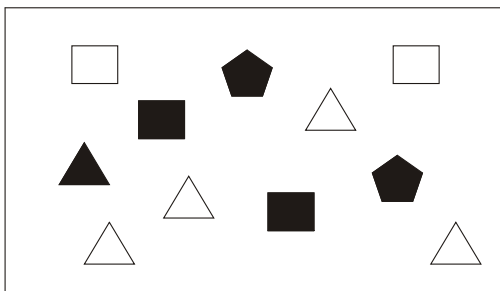
- (b) Write down the probability that the child selected is a boy who ate chicken.

$$\frac{17}{100}$$

(1)

(4 marks)

5.



The diagram shows some 3-sided, 4-sided and 5-sided shapes.

The shapes are black or white.

(a) Complete the two-way table. (3)

|               | Black | White | Total |
|---------------|-------|-------|-------|
| 3-sided shape | 1     | 4     | 5     |
| 4-sided shape | 2     | 2     | 4     |
| 5-sided shape | 2     | 0     | 2     |
| Total         | 5     | 6     | 11    |

Ed takes a shape at random.

(b) Write down the probability the shape is white and 3-sided.

$\frac{4}{11}$

(2)

(5 marks)

6. The two-way table shows some information about the number of boys, girls and teachers at three schools.

|          | School A | School B | School C | Total |
|----------|----------|----------|----------|-------|
| Boys     | 85       | 29       | 54       | 168   |
| Girls    | 93       | 31       | 47       | 171   |
| Teachers | 13       | 5        | 9        | 27    |
| Total    | 191      | 65       | 110      | 366   |

Complete the two-way table.

(4 marks)

7. 80 children went on a school trip.  
They went to London or to York.

23 boys and 19 girls went to London.  
14 boys went to York.

- (a) Use this information to complete the two-way table.

|       | London | York | Total |
|-------|--------|------|-------|
| Boys  | 23     | 14   | 37    |
| Girls | 19     | 24   | 43    |
| Total | 42     | 38   | 80    |

(3)

One of these 80 children is chosen at random.

- (b) What is the probability that this child went to London?

$$\frac{42}{80}$$

(1)

(4 marks)

8. Felicity asked 100 students how they came to school one day.  
Each student walked or came by bicycle or came by car.

49 of the 100 students are girls.

10 of the girls came by car.

16 boys walked.

21 of the 41 students who came by bicycle are boys.

Work out the total number of students who walked to school.

|       | Car | Walk | Bicycle | Total |
|-------|-----|------|---------|-------|
| Boys  | 14  | 16   | 21      | 51    |
| Girls | 10  | 19   | 20      | 49    |
| Total | 24  | 35   | 41      | 100   |

35

(4 marks)

9. Janice asks 100 students if they like biology or chemistry or physics best.

38 of the students are girls.

21 of these girls like biology best.

18 boys like physics best.

7 out of the 23 students who like chemistry best are girls.

Work out the number of students who like biology best.

|       | Biology | Chemistry | Physics | Total |
|-------|---------|-----------|---------|-------|
| Boys  | 28      | 16        | 18      | 62    |
| Girls | 21      | 7         | 10      | 38    |
| Total | 49      | 23        | 28      | 100   |

49

(4 marks)

10. 56 students were asked if they watched tennis yesterday.  
20 of the students are boys.  
17 girls watched tennis yesterday.  
32 students did not watch tennis yesterday

One of these students is to be chosen at random.

Write down the probability that the student chosen will be a boy who watched tennis yesterday.  
Give your answer as a fraction in its simplest form.

|       | Watched tennis | Didn't watch tennis | Total |
|-------|----------------|---------------------|-------|
| Boys  | 7              | 13                  | 20    |
| Girls | 17             | 19                  | 36    |
| Total | 24             | 32                  | 56    |

$$\frac{7}{56} = \frac{1}{8}$$

$\frac{1}{8}$

(4 marks)