FUNCTIONAL SKILLS MATHEMATICS

AQA | Edexcel | City & Guilds | Open Awards | NCFE | Highfield

Level 2

Probability Tables

Materials
- You **cannot** use a calculator for **questions** with this symbol.

Instructions
- Answer **all** questions.
- Answer questions on separate paper.

Information and Advice
- The marks for each question are shown in brackets – use this as a guide on how long to spend on each question.
- Read each question carefully before you answer it.
- Check you answers.

Q1   A teacher asks her class which pet they prefer, a dog or a cat. The results are recorded below.

	Boy	Girl
Dog	7	3
Cat	4	6

1(a)   For a pupil chosen at random, what is the probability it is a boy that prefers dogs?

[1 mark]

1(b)   For a pupil chosen at random, what is the probability it is a girl that prefers dogs?

[1 mark]

1(c)   Given that a chosen pupil is a girl, what is the probability they prefer cats?

[1 mark]

1(d)   Given that a chosen pupil prefers cats, what is the probability they are a girl?

[1 mark]

4

Q2 Two fair die are thrown at the same time. Their results are multiplied.

2(a) Populate the probability table.

		Die					
		1	2	3	4	5	6
Die	1						
	2						
	3						
	4						
	5						
	6						

[3 marks]

2(b) What is the probability of the result being a square number?

[1 mark]

2(c) What is the probability of the result being greater than 11, but less than 17?

[1 mark]

2(d) What is the probability of the result being odd?

[1 mark]

6

Q3   A fair die and fair spinner are used at the same time. Their results are added together.

3(a)   Populate the probability table.

		Die					
		1	2	3	4	5	6
Spinner	1						
	2						
	3						
	4						
	5						

[3 marks]

3(b)   What is the probability of the total being 5?

[1 mark]

3(c)   What is the probability of the total being greater than 7, but less than 10?

[1 mark]

3(d)   What is the probability of getting an even total?

[1 mark]

3(e)   What is the probability of the spinner showing a number greater than the die?

[2 marks]

Q4 An airline provides 4 different meal types: Standard, Halal, Kosher, and Vegetarian. A fully booked Boeing-737 flight has the following breakdown, by the seat types Business and Economy.

4(a) Populate the 'Totals' row and column, and use these to give the maximum capacity of a Boeing-737.

		Serving				
		Standard	Halal	Kosher	Vegetarian	Total
Seating Type	Business	23	10	15	21	
	Economy	40	21	22	36	
	Total					

[3 marks]

4(b) For a passenger chosen at random, what is the probability they have a vegetarian meal and are in economy class?

[1 mark]

4(c) For a passenger chosen at random, what is the probability they do **not** have a standard meal, but are in business class?

[1 mark]

4(d) A passenger having a Kosher meal is chosen at random. What is the probability they are in business class?

[1 mark]

4(e) A passenger in economy class is chosen at random. What is the probability they are having a Halal meal?

[1 mark]

7

Q5 A survey of 310 adults is taken, asking for their marital status and age group.

5(a) Populate the rest of the table.

		Age group				
		18-29	30-49	50-64	65+	Total
Marital Status	Married		45	23	67	173
	Not Married	56			19	
	Total	94		55		**310**

[3 marks]

5(b) For a respondent chosen at random, what is the probability they are married?

[1 mark]

5(c) For a respondent chosen at random, what is the probability they are under the age of 50?

[1 mark]

5(d) Given that a respondent is 65+, what is the probability they are not married?

[1 mark]

5(e) Given that a respondent is married, what is the probability they are **not** under 29?

[1 mark]

5(f) Assuming the data is representative of the total population, and given that there are approximately 54 million adults in the UK, estimate the number of married people in the 18 – 29 age category. Give your answer to the nearest ten thousand.

[2 marks]