



# FUNCTIONAL SKILLS MATHEMATICS

AQA | Edexcel | City & Guilds | Open Awards | NCFE | Highfield  
Level 1

## Probability

### 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 your answers.



**Q1** George rolls a standard, fair, 6-sided die.

**1(a)** What is the probability he rolls an even number?

**[1 mark]**

**1(b)** What is the probability he rolls an odd number?

**[2 marks]**

**1(c)** What is the probability he rolls a square number?

**[2 marks]**



**Q2** Jill is selling 20 shirts: 5 blue, 8 white and 3 red - the rest are black.

**2(a)** What is the probability of choosing a red shirt at random?

**[1 mark]**

**2(b)** What is the probability of choosing a black or white shirt at random?

**[2 marks]**



**Q3** Brandon has three types of sandwiches. There are 6 ham and cheese, 10 BLTs and 4 tuna sandwiches.

**3(a)** If he picks one at random, what is the probability he chooses a BLT?

**[1 mark]**

**3(b)** If he picks one at random, what is the probability he chooses a BLT or ham and cheese sandwich?

**[1 mark]**



**Q4** Alicia has a box of newborn puppies – 3 black Labradors, 4 chocolate Labradors and a golden retriever. She chooses one at random, without looking.

**4(a)** What is the probability she chooses a black Labrador?

**[1 mark]**

**4(b)** What is the probability she chooses the golden retriever?

**[1 mark]**



**Q5** Zakaria has a bag containing 30 red marbles and 10 blue marbles only. She reaches in and grabs a marble at random.

**5(a)** What is the probability she grabs a red marble?

**[1 mark]**

**5(b)** What is the probability she grabs a white marble?

**[1 mark]**



**Q6**

**6(a)** Frazer is at a European roulette wheel. Among the 37 numbers available, there is a green zero; the rest are red and black, in even amounts. What is the probability of getting a red number?

**[2 marks]**

**6(b)** An American roulette wheel has 38 numbers: that is, the same as a European wheel, with the addition of a green double 0. Has the probability of landing on a green number doubled?

**[2 marks]**

**6(c)** Which style of roulette wheel has a higher probability of landing on black?

**[2 marks]**



**Q7** The manager of a football team assigns 20 players a number each; 1 – 8 for defenders, 9 – 16 for midfielders and 17 – 20 for forwards. A team captain chooses one number at random, and that player joins his team.

**7(a)** What is the probability that their choice is a midfielder?

**[1 mark]**

**7(b)** What is the probability that their choice is a forward?

**[1 mark]**



**Q8** Abigail and Harry are playing a game where they shout a number from 1 to 20 at the same time. If they shout the same number, or two numbers that sum to 20, they lose.

a) If Abigail chooses the number 11, what is the probability of losing?

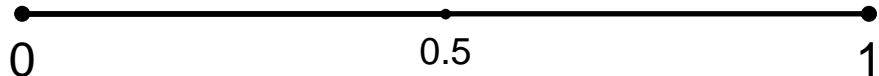
[2 marks]

b) If Harry chooses the number 10, what is the probability of losing?

[2 marks]



**Q9** Here is a probability scale.



On the scale, mark the following probabilities:

**9(a)** Flipping a fair coin and getting a head.

[1 mark]

**9(b)** Tomorrow will be a Monday, Tuesday, Wednesday, Thursday, Friday, Saturday or Sunday.

[1 mark]

**9(c)** On a random day in the UK in March, there will be snow.

[1 mark]

**9(d)** Dinosaurs come back to life.

[1 mark]

**9(e)** On any given day in November (in the UK), there will be rain in your town.

[1 mark]