

GCSE Mathematics

F

Basic Probability & Sample Spaces

Foundation Tier | Grades 2-4

Total Marks	Time	Questions
40	40 min	20

Instructions:

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

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Edexcel-style questions**Q1** 

Grade 2

Edexcel style

A bag contains 5 red counters, 3 blue counters and 2 green counters. A counter is picked at random. Find the probability that it is red.

Answer

teachably

[2 marks]**Q2** 

Grade 3

Edexcel style

Two fair coins are flipped. By listing all the possible outcomes, work out how many different outcomes there are.

Answer

teachably

[2 marks]**Q3** 

Grade 3

Edexcel style

A spinner can land on red, blue, green or yellow. $P(\text{red}) = 0.3$, $P(\text{blue}) = 0.25$, $P(\text{green}) = 0.2$. Work out $P(\text{yellow})$.

Answer

teachably

[2 marks]

Q4

Grade 3

Edexcel style

The probability that it rains tomorrow is 0.35. Work out the probability that it does not rain tomorrow.

Answer _____

teachably

[2 marks]**Q5**

Grade 4

Edexcel style

Two fair 4-sided dice, each numbered 1 to 4, are rolled and their scores are added together. Use a sample-space diagram to find the probability that the total is 5.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

Answer _____

teachably

[2 marks]

AQA-style questions**Q6** 

Grade 2

AQA style

A spinner has 8 equal sections: 3 are yellow, 3 are blue and 2 are red. The spinner is spun once. Find the probability that it lands on blue.

Answer

teachably

[2 marks]**Q7** 

Grade 3

AQA style

A coin is flipped and a spinner with 3 equal sections (red, blue, green) is spun. By listing all the possible outcomes, work out how many different outcomes there are.

Answer

teachably

[2 marks]**Q8** 

Grade 3

AQA style

A spinner can land on A, B, C or D. $P(A) = 0.4$, $P(B) = 0.15$, $P(C) = 0.3$. Work out $P(D)$.

Answer

teachably

[2 marks]

Q9

Grade 3

AQA style

The probability that a team wins their next match is $\frac{3}{8}$. Work out the probability that they do not win their next match.

Answer _____

teachably

[2 marks]**Q10**

Grade 4

AQA style

Two fair 3-sided spinners, each numbered 1 to 3, are spun and their scores are added together. Use a sample-space diagram to find the probability that the total is 4.

+	1	2	3
1	2	3	4
2	3	4	5
3	4	5	6

Answer _____

teachably

[2 marks]

OCR-style questions**Q11** 

Grade 3

OCR style

A box contains 6 black pens, 3 white pens and 3 green pens. A pen is picked at random. Find the probability that it is white.

Answer

teachably

[2 marks]**Q12** 

Grade 3

OCR style

A coin is flipped and a spinner numbered 1 to 4 is spun. By listing all the possible outcomes, work out how many different outcomes there are.

Answer

teachably

[2 marks]**Q13** 

Grade 4

OCR style

A spinner can land on red, blue, green or yellow. $P(\text{red}) = \frac{1}{4}$, $P(\text{blue}) = \frac{1}{3}$, $P(\text{green}) = \frac{1}{6}$. Work out $P(\text{yellow})$.

Answer

teachably

[2 marks]

Q14

Grade 3

OCR style

The probability that a manufactured item is red is 0.72. Work out the probability that it is not red.

Answer

teachably

[2 marks]**Q15**

Grade 4

OCR style

Two fair 4-sided dice, each numbered 1 to 4, are rolled and their scores are added together. Use a sample-space diagram to find the probability that the total is 6.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

Answer

teachably

[2 marks]

Teachably-style questions**Q16** 

Grade 3

Teachably style

A bag contains 9 red beads, 4 blue beads and 2 yellow beads. A bead is picked at random. Find the probability that it is blue.

Answer

teachably

[2 marks]**Q17** 

Grade 4

Teachably style

Two spinners, each with 3 equal sections (red, blue, green), are spun. By listing all the possible outcomes, work out how many different outcomes there are.

Answer

teachably

[2 marks]**Q18** 

Grade 3

Teachably style

A game can end in a win, a draw or a loss. $P(\text{win}) = 0.45$, $P(\text{draw}) = 0.3$. Work out $P(\text{loss})$.

Answer

teachably

[2 marks]

Q19

Grade 4

Teachably style

The probability that an item selected at random is faulty is $\frac{1}{20}$. Work out the probability that it is not faulty.

Answer _____

teachably

[2 marks]**Q20**

Grade 4

Teachably style

Two fair 5-sided spinners, each numbered 1 to 5, are spun and their scores are added together. Use a sample-space diagram to find the probability that the total is 7.

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9
5	6	7	8	9	10

Answer _____

teachably

[2 marks]**END OF PAPER****Want help from an expert maths tutor?**

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