
GCSE Mathematics

Independent Events

Mark Scheme - Foundation Tier | Grades 5-6

M = method mark, A = accuracy mark (dependent on the preceding M mark), B = independent mark.

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Edexcel-style questions

Q1 Grade 5 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	the outcome of the first flip has no effect on the second	M1
(a)	Yes - the events are independent	A1

Q2 Grade 5 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	0.4×0.5	M1
(a)	0.2	A1

Q3 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$0.12 \div 0.3$	M1
(a)	0.4	A1

Q4 Grade 5 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{2} \times \frac{1}{6}$	M1
(a)	$\frac{1}{12}$	A1

Q5 Grade 6 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	M1
(a)	$\frac{1}{8}$	A1

AQA-style questions

Q6 Grade 5 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	removing the first counter changes the counters left for the second pick	M1
(a)	No - the events are not independent	A1

Q7 Grade 5 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	0.3×0.6	M1
(a)	0.18	A1

Q8 Grade 6 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$0.15 \div 0.25$	M1
(a)	0.6	A1

Q9 Grade 6 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{5} \times \frac{1}{4}$	M1
(a)	$\frac{1}{20}$	A1

Q10 Grade 6 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{6} \times \frac{1}{6} \times \frac{1}{6}$	M1
(a)	$\frac{1}{216}$	A1

OCR-style questions

Q11 Grade 5 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	the outcome of the first spin has no effect on the second	M1
(a)	Yes - the events are independent	A1

Q12 Grade 5 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{4} \times \frac{2}{3}$	M1
(a)	$\frac{1}{6}$	A1

Q13 Grade 6 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{10} \div \frac{1}{2}$	M1
(a)	$\frac{1}{5}$	A1

Q14 Grade 6 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{2} \times \frac{2}{5}$	M1
(a)	$\frac{1}{5}$	A1

Q15 Grade 6 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{1}{3} \times \frac{1}{3} \times \frac{1}{3}$	M1
(a)	$\frac{1}{27}$	A1

Teachably-style questions

Q16 Grade 5 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	removing the first ball changes the probabilities for the second pick	M1
(a)	No - the events are not independent	A1

Q17 Grade 5 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	0.25×0.32	M1
(a)	0.08	A1

Q18 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$0.24 \div 0.4$	M1
(a)	0.6	A1

Q19 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{3}{5} \times \frac{4}{10}$	M1
(a)	$\frac{6}{25}$	A1

Q20 Grade 6 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$0.5 \times 0.4 \times 0.2$	M1
(a)	0.04	A1

END OF PAPER

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