
GCSE Mathematics

Collecting Data & Sampling Methods

Mark Scheme - Foundation Tier | Grades 2-4

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

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Edexcel-style questions

Q1 Grade 2 Edexcel style

Total: 1

Part	Mark scheme	Marks
(a)	quantitative	B1

Q2 Grade 3 Edexcel style

Total: 1

Part	Mark scheme	Marks
(a)	systematic sampling	B1

Q3 Grade 3 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	it is a leading question	B1
(a)	it suggests the answer the researcher wants, encouraging people to say yes	B1

Q4 Grade 4 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	the sample only includes football fans who were at the match	B1
(a)	this is not representative of the whole town's population	B1

Q5 Grade 4 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	total students = $180 + 220 = 400$	M1
(a)	Year 10 sample = $40 \times \frac{180}{400}$	M1
(a)	18 students	A1

AQA-style questions

Q6 Grade 2 AQA style

Total: 1

Part	Mark scheme	Marks
(a)	qualitative	B1

Q7 Grade 3 AQA style

Total: 1

Part	Mark scheme	Marks
(a)	random sampling	B1

Q8 Grade 3 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	the response options overlap	B1
(a)	someone who watches exactly 5 hours could tick two different boxes	B1

Q9 Grade 4 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	only people who chose to respond are included	B1
(a)	this may not represent the opinions of all customers (self-selection bias)	B1

Q10 Grade 4 AQA style

Total: 3

Part	Mark scheme	Marks
(a)	total employees = $150 + 250 = 400$	M1
(a)	female sample = $80 \times \frac{250}{400}$	M1
(a)	50 employees	A1

OCR-style questions

Q11 Grade 2 OCR style

Total: 1

Part	Mark scheme	Marks
(a)	continuous	B1

Q12 Grade 3 OCR style

Total: 1

Part	Mark scheme	Marks
(a)	stratified sampling	B1

Q13 Grade 3 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	the word 'regularly' is not defined	B1
(a)	different people may interpret 'regularly' differently, e.g. once a week or once a day	B1

Q14 Grade 4 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	this excludes people who work or are unavailable on weekday mornings	B1
(a)	the sample is not representative of all shoppers	B1

Q15 Grade 4 OCR style

Total: 3

Part	Mark scheme	Marks
(a)	total books = $320 + 480 = 800$	M1
(a)	fiction sample = $40 \times \frac{320}{800}$	M1
(a)	16 books	A1

Teachably-style questions

Q16 Grade 2 Teachably style

Total: 1

Part	Mark scheme	Marks
(a)	discrete	B1

Q17 Grade 3 Teachably style

Total: 1

Part	Mark scheme	Marks
(a)	convenience sampling (opportunity sampling)	B1

Q18 Grade 3 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	no time frame is given	B1
(a)	'how many books do you read' could mean per week, per month or per year	B1

Q19 Grade 4 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	this excludes students who do not use the canteen	B1
(a)	the sample is not representative of all students in the school	B1

Q20 Grade 4 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	total households = $900 + 600 = 1500$	M1
(a)	area B sample = $50 \times \frac{600}{1500}$	M1
(a)	20 households	A1

END OF PAPER

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