
GCSE Mathematics

Histograms

Mark Scheme - Higher | Grades 7-9

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

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Edexcel-style questions

Q1 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	frequency density = frequency $\div$ class width	M1
(a)	$24 \div 10 = 2.4$	A1

Q2 Grade 7 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	frequency = frequency density $\times$ class width	M1
(a)	$1.0 \times 20 = 20$ people	A1

Q3 Grade 8 Edexcel style

Total: 3

Part	Mark scheme	Marks
(a)	known frequencies: $8 + 20 + 24 + 20 = 72$	M1
(a)	missing frequency = $80 - 72$	M1
(a)	8 people	A1

Q4 Grade 8 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	estimated frequency = frequency density $\times$ width = 2.4×5	M1
(a)	12 people	A1

Q5 Grade 9 Edexcel style

Total: 5

Part	Mark scheme	Marks
(a)	frequency densities: $9 \div 15 = 0.6$, $30 \div 10 = 3.0$, $24 \div 10 = 2.4$, $12 \div 30 = 0.4$	M1
(a)	bar drawn for 0-15 with height 0.6	B1
(a)	bar drawn for 15-25 with height 3.0	B1
(a)	bar drawn for 25-35 with height 2.4	B1
(a)	bar drawn for 35-65 with height 0.4	B1

AQA-style questions

Q6 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	frequency density = frequency $\div$ class width	M1
(a)	$20 \div 10 = 2$	A1

Q7 Grade 7 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	frequency = frequency density $\times$ class width	M1
(a)	$1.2 \times 10 = 12$ parcels	A1

Q8 Grade 8 AQA style

Total: 3

Part	Mark scheme	Marks
(a)	known frequencies: $15 + 25 + 20 + 12 = 72$	M1
(a)	missing frequency = $80 - 72$	M1
(a)	8 parcels	A1

Q9 Grade 8 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	estimated frequency = frequency density $\times$ width = 2×5	M1
(a)	10 parcels	A1

Q10 Grade 9 AQA style

Total: 5

Part	Mark scheme	Marks
(a)	frequency densities: $10 \div 5 = 2.0$, $40 \div 10 = 4.0$, $16 \div 10 = 1.6$, $12 \div 20 = 0.6$	M1
(a)	bar drawn for 0-5 with height 2.0	B1
(a)	bar drawn for 5-15 with height 4.0	B1
(a)	bar drawn for 15-25 with height 1.6	B1
(a)	bar drawn for 25-45 with height 0.6	B1

OCR-style questions

Q11 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	frequency density = frequency $\div$ class width	M1
(a)	$24 \div 10 = 2.4$	A1

Q12 Grade 7 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	frequency = frequency density $\times$ class width	M1
(a)	$1.2 \times 10 = 12$ cars	A1

Q13 Grade 8 OCR style**Total: 3**

Part	Mark scheme	Marks
(a)	known frequencies: $16 + 24 + 20 + 12 = 72$	M1
(a)	missing frequency = $80 - 72$	M1
(a)	8 cars	A1

Q14 Grade 8 OCR style**Total: 2**

Part	Mark scheme	Marks
(a)	estimated frequency = frequency density $\times$ width = 2.4×5	M1
(a)	12 cars	A1

Q15 Grade 9 OCR style**Total: 5**

Part	Mark scheme	Marks
(a)	frequency densities: $12 \div 30 = 0.4$, $28 \div 10 = 2.8$, $20 \div 10 = 2.0$, $12 \div 30 = 0.4$	M1
(a)	bar drawn for 0-30 with height 0.4	B1
(a)	bar drawn for 30-40 with height 2.8	B1
(a)	bar drawn for 40-50 with height 2.0	B1
(a)	bar drawn for 50-80 with height 0.4	B1

Teachably-style questions

Q16 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	frequency density = frequency $\div$ class width	M1
(a)	$18 \div 15 = 1.2$	A1

Q17 Grade 7 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	frequency = frequency density $\times$ class width	M1
(a)	$0.6 \times 30 = 18$ films	A1

Q18 Grade 8 Teachably style

Total: 3

Part	Mark scheme	Marks
(a)	known frequencies: $12 + 24 + 18 + 18 = 72$	M1
(a)	missing frequency = $84 - 72$	M1
(a)	12 films	A1

Q19 Grade 8 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	estimated frequency = frequency density $\times$ width = 1.6×5	M1
(a)	8 films	A1

Q20 Grade 9 Teachably style

Total: 5

Part	Mark scheme	Marks
(a)	frequency densities: $12 \div 40 = 0.3$, $30 \div 15 = 2.0$, $21 \div 15 = 1.4$, $18 \div 60 = 0.3$	M1
(a)	bar drawn for 60-100 with height 0.3	B1
(a)	bar drawn for 100-115 with height 2.0	B1
(a)	bar drawn for 115-130 with height 1.4	B1
(a)	bar drawn for 130-190 with height 0.3	B1

END OF PAPER

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