
GCSE Mathematics

Pie Charts

Mark Scheme - Foundation Tier | Grades 3-5

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

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Edexcel-style questions

Q1 Grade 3 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	angle = $\frac{10}{40} \times 360$	M1
(a)	90°	A1

Q2 Grade 3 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{60}{360} \times 72$	M1
(a)	12 students	A1

Q3 Grade 4 Edexcel style

Total: 2

Part	Mark scheme	Marks
(a)	1° represents $8 \div 72$ students	M1
(a)	total = $8 \div 72 \times 360 = 40$ students	A1

Q4 Grade 4 Edexcel style

Total: 4

Part	Mark scheme	Marks
(a)	School A: $\frac{45}{360} \times 200 = 25$	M1
(a)	School B: $\frac{45}{360} \times 320 = 40$	M1
(a)	$40 > 25$	M1
(a)	School B has more, by 15 students	A1

Q5 Grade 5 Edexcel style

Total: 4

Part	Mark scheme	Marks
(a)	angle for Train = $\frac{24}{80} \times 360 = 108^\circ$	M1
(a)	angle for Bike = $\frac{8}{80} \times 360 = 36^\circ$	M1
(a)	$108 - 36$	M1
(a)	72°	A1

AQA-style questions

Q6 Grade 3 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	angle = $\frac{24}{60} \times 360$	M1
(a)	144°	A1

Q7 Grade 3 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{120}{360} \times 90$	M1
(a)	30 people	A1

Q8 Grade 4 AQA style

Total: 2

Part	Mark scheme	Marks
(a)	1° represents $6 \div 48$ people	M1
(a)	total = $6 \div 48 \times 360 = 45$ people	A1

Q9 Grade 4 AQA style

Total: 4

Part	Mark scheme	Marks
(a)	Town A: $\frac{60}{360} \times 300 = 50$	M1
(a)	Town B: $\frac{60}{360} \times 450 = 75$	M1
(a)	$75 > 50$	M1
(a)	Town B has more, by 25 residents	A1

Q10 Grade 5 AQA style

Total: 4

Part	Mark scheme	Marks
(a)	angle for Pizza = $\frac{27}{72} \times 360 = 135^\circ$	M1
(a)	angle for Salad = $\frac{12}{72} \times 360 = 60^\circ$	M1
(a)	$135 - 60$	M1
(a)	75°	A1

OCR-style questions

Q11 Grade 3 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	angle = $\frac{15}{45} \times 360$	M1
(a)	120°	A1

Q12 Grade 3 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{90}{360} \times 60$	M1
(a)	15 students	A1

Q13 Grade 4 OCR style

Total: 2

Part	Mark scheme	Marks
(a)	1° represents $6 \div 40$ students	M1
(a)	total = $6 \div 40 \times 360 = 54$ students	A1

Q14 Grade 4 OCR style

Total: 4

Part	Mark scheme	Marks
(a)	Factory A: $\frac{80}{360} \times 180 = 40$	M1
(a)	Factory B: $\frac{80}{360} \times 270 = 60$	M1
(a)	$60 > 40$	M1
(a)	Factory B has more, by 20 workers	A1

Q15 Grade 5 OCR style

Total: 4

Part	Mark scheme	Marks
(a)	angle for Beach = $\frac{40}{96} \times 360 = 150^\circ$	M1
(a)	angle for Adventure = $\frac{12}{96} \times 360 = 45^\circ$	M1
(a)	$150 - 45$	M1
(a)	105°	A1

Teachably-style questions

Q16 Grade 3 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	angle = $\frac{15}{50} \times 360$	M1
(a)	108°	A1

Q17 Grade 3 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	$\frac{150}{360} \times 48$	M1
(a)	20 people	A1

Q18 Grade 4 Teachably style

Total: 2

Part	Mark scheme	Marks
(a)	1° represents $9 \div 60$ customers	M1
(a)	total = $9 \div 60 \times 360 = 54$ customers	A1

Q19 Grade 4 Teachably style

Total: 4

Part	Mark scheme	Marks
(a)	Survey A: $\frac{90}{360} \times 240 = 60$	M1
(a)	Survey B: $\frac{90}{360} \times 160 = 40$	M1
(a)	$60 > 40$	M1
(a)	Survey A has more, by 20 people	A1

Q20 Grade 5 Teachably style

Total: 4

Part	Mark scheme	Marks
(a)	angle for Latte = $\frac{35}{84} \times 360 = 150^\circ$	M1
(a)	angle for Espresso = $\frac{14}{84} \times 360 = 60^\circ$	M1
(a)	$150 - 60$	M1
(a)	90°	A1

END OF PAPER

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