



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Data Representation: Bar Charts & Pie Charts · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Data Representation: Bar Charts & Pie Charts

Total marks available: 68

● Data Representation: Bar Charts & Pie Charts

✓8

Q1 · ● Developing · 1 mark

METHOD

Read the height of the Train bar = 8

✓27

Q2 · ● Developing · 1 mark

METHOD

Read the height of the Athletics bar = 27

✓80

Q3 · ● Developing · 2 marks

METHOD

Total = $26 + 3 + 28 + 14 + 9 = 80$

✓(a) Hockey; (b) $1/12$

Q4 · ● Developing · 2 marks

METHOD

(a) Largest sector: Hockey

(b) $30/360 = 1/12$

✓3

Q5 · ● Developing · 1 mark

METHOD

Read the height of the Rock bar = 3

✓13

Q6 · ● Developing · 1 mark

METHOD

Read the height of the Purple bar = 13

✓87

Q7 · ● Developing · 2 marks

METHOD

$$\text{Total} = 18 + 8 + 13 + 29 + 19 = 87$$

✓57

Q8 · ● Developing · 2 marks

METHOD

$$\text{Total} = 4 + 4 + 17 + 23 + 9 = 57$$

✓(a) Cats; (b) 2/9

Q9 · ● Developing · 2 marks

METHOD

(a) Largest sector: Cats

$$(b) 80/360 = 2/9$$

✓(a) Football; (b) 1/2

Q10 · ● Developing · 2 marks

METHOD

(a) Largest sector: Football

$$(b) 180/360 = 1/2$$

✓9

Q11 · ● Secure · 2 marks

METHOD

$$26 - 17 = 9$$

✓ Angles: Bus 60° , Car 72° , Walk 138° , Cycle 90°

Q12 · ● Secure · 4 marks

METHOD

$360^\circ \div 60 = 6^\circ$ for each employee

Bus: $10 \times 6 = 60^\circ$

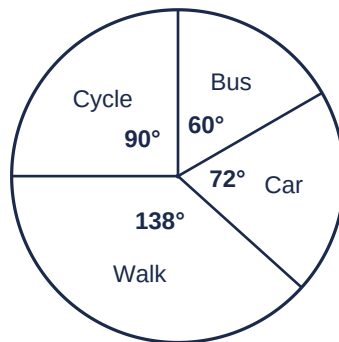
Car: $12 \times 6 = 72^\circ$

Walk: $23 \times 6 = 138^\circ$

Cycle: $15 \times 6 = 90^\circ$

Check: $60 + 72 + 138 + 90 = 360^\circ$

Transport	Frequency	Angle
Bus	10	60°
Car	12	72°
Walk	23	138°
Cycle	15	90°



✓10

Q13 · ● Secure · 2 marks

METHOD

$16 - 6 = 10$

✓13

Q14 · ● Secure · 2 marks

METHOD

$21 - 8 = 13$

✓48°

Q15 · ● Secure · 2 marks

METHOD

 $360^\circ \div 30 = 12^\circ$ for each studentNetball: $4 \times 12^\circ = 48^\circ$

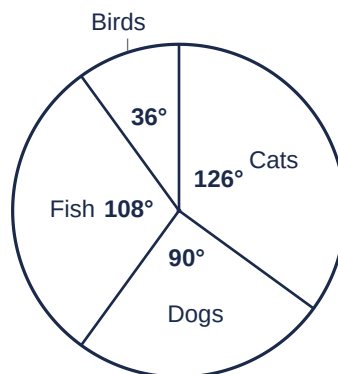
✓Angles: Cats 126°, Dogs 90°, Fish 108°, Birds 36°

Q16 · ● Secure · 4 marks

METHOD

 $360^\circ \div 20 = 18^\circ$ for each householdCats: $7 \times 18 = 126^\circ$ Dogs: $5 \times 18 = 90^\circ$ Fish: $6 \times 18 = 108^\circ$ Birds: $2 \times 18 = 36^\circ$ Check: $126 + 90 + 108 + 36 = 360^\circ$

Pet	Frequency	Angle
Cats	7	126°
Dogs	5	90°
Fish	6	108°
Birds	2	36°



✓5

Q17 · ● Secure · 2 marks

METHOD

 $14 - 9 = 5$

✓ Angles: Comedy 48° , Drama 54° , Action 228° , Documentary 30°

Q18 · ● Secure · 4 marks

METHOD

$360^\circ \div 60 = 6^\circ$ for each viewer

Comedy: $8 \times 6 = 48^\circ$

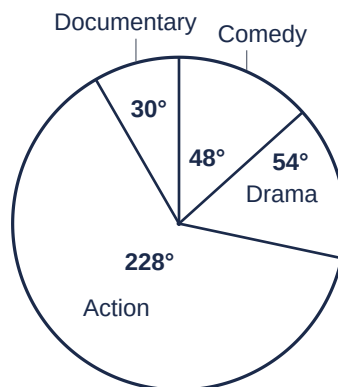
Drama: $9 \times 6 = 54^\circ$

Action: $38 \times 6 = 228^\circ$

Documentary: $5 \times 6 = 30^\circ$

Check: $48 + 54 + 228 + 30 = 360^\circ$

Type of film	Frequency	Angle
Comedy	8	48°
Drama	9	54°
Action	38	228°
Documentary	5	30°



✓ 120°

Q19 · ● Secure · 2 marks

METHOD

$360^\circ \div 30 = 12^\circ$ for each student

Hockey: $10 \times 12^\circ = 120^\circ$

✓ 30°

Q20 · ● Secure · 2 marks

METHOD

$360^\circ \div 36 = 10^\circ$ for each student

Rugby: $3 \times 10^\circ = 30^\circ$

✓8

Q21 · ● Greater Depth · 2 marks

METHOD

$$32/360 \times 90 = 8$$

✓7

Q22 · ● Greater Depth · 2 marks

METHOD

$$63/360 \times 40 = 7$$

✓ Mode = Pop; Range = 19

Q23 · ● Greater Depth · 3 marks

METHOD

Highest bar: Pop (24) → mode = Pop
Range = 24 - 5 = 19

✓ (a) 140°; (b) 28

Q24 · ● Greater Depth · 3 marks

METHOD

$$(a) 360 - (95 + 70 + 55) = 140^\circ$$

$$(b) 140/360 \times 72 = 28$$

✓6

Q25 · ● Greater Depth · 2 marks

METHOD

$$54/360 \times 40 = 6$$

✓5

Q26 · ● Greater Depth · 2 marks

METHOD

$$50/360 \times 36 = 5$$

✓ Mode = Red; Range = 15

Q27 · ● Greater Depth · 3 marks

METHOD

Highest bar: Red (21) → mode = Red
Range = $21 - 6 = 15$

✓ (a) 105° ; (b) 7

Q28 · ● Greater Depth · 3 marks

METHOD

(a) $360 - (150 + 45 + 60) = 105^\circ$
(b) $105/360 \times 24 = 7$

✓ (a) 54° ; (b) 3

Q29 · ● Greater Depth · 3 marks

METHOD

(a) $360 - (180 + 90 + 36) = 54^\circ$
(b) $54/360 \times 20 = 3$

✓ Mode = Bike; Range = 21

Q30 · ● Greater Depth · 3 marks

METHOD

Highest bar: Bike (26) → mode = Bike
Range = $26 - 5 = 21$