

8300

GCSE MATHEMATICS

Foundation tier – Questions by Topic – Mark Scheme

Statistics

Drawing and interpreting pictograms

v1.0

Glossary for Mark Schemes

GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

If a student uses a method which is not explicitly covered by the mark scheme the same principles of marking should be applied. Credit should be given to any valid methods. Examiners should seek advice from their senior examiner if in any doubt

M	Method marks are awarded for a correct method which could lead to a correct answer.
A	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied
B	Marks awarded independent of method.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
M dep	A method mark dependent on a previous method mark being awarded.
B dep	A mark that can only be awarded if a previous independent mark has been awarded.
oe	Or equivalent. Accept answers that are equivalent. e.g. accept 0.5 as well as $\frac{1}{2}$
[a, b]	Accept values between a and b inclusive.
3.14...	Allow answers which begin 3.14 e.g. 3.14, 3.142, 3.1416
Use of brackets	It is not necessary to see the bracketed work to award the marks.

Examiners should consistently apply the following principles

Diagrams

Diagrams that have working on them should be treated like normal responses. If a diagram has been written on but the correct response is within the answer space, the work within the answer space should be marked. Working on diagrams that contradicts work within the answer space is not to be considered as choice but as working, and is not, therefore, penalised.

Responses which appear to come from incorrect methods

Whenever there is doubt as to whether a student has used an incorrect method to obtain an answer, as a general principle, the benefit of doubt must be given to the student. In cases where there is no doubt that the answer has come from incorrect working then the student should be penalised.

Questions which ask students to show working

Instructions on marking will be given but usually marks are not awarded to students who show no working.

Questions which do not ask students to show working

As a general principle, a correct response is awarded full marks.

Misread or miscopy

Students often copy values from a question incorrectly. If the examiner thinks that the student has made a genuine misread, then only the accuracy marks (A or B marks), up to a maximum of 2 marks are penalised. The method marks can still be awarded.

Further work

Once the correct answer has been seen, further working may be ignored unless it goes on to contradict the correct answer.

Choice

When a choice of answers and/or methods is given, mark each attempt. If both methods are valid then M marks can be awarded but any incorrect answer or method would result in marks being lost.

Work not replaced

Erased or crossed out work that is still legible should be marked.

Work replaced

Erased or crossed out work that has been replaced is not awarded marks.

Premature approximation

Rounding off too early can lead to inaccuracy in the final answer. This should be penalised by 1 mark unless instructed otherwise.

Q1.

(a) 160

B1

Additional Guidance

If answer line blank, check diagram

Accept 160 people but not adults or students

Accept 160 out of 540

B1

Do not accept $\frac{160}{540}$

B0

(b) (difference =) $6 - 3.5$ or 2.5

or

(working in small boxes) $24 - 14$

or

(S) 6×40 or 24×10 or 240

or

(A) 3.5×40 or 14×10 or 140

or

$40 + 40 + 20$

oe

M1

100

A1

Additional Guidance

Check diagram for working

[3]

Q2.

- (a) 40 or 50 or 35 or 20 or 25
or 17 (coins)
or $16 + \frac{1}{2} + \frac{1}{2}$ (coins)

May be implied

B1

their 40 + their 50 + their 35 + their 20 + their 25
or their 17×10
or their $16 \times 10 + 5 + 5$
or $200 \div 10$

M1

170
or
20 (coins needed)

A1

Correct conclusion based on their total money raised or on their total coins and their coins needed

Strand (iii)

ft correct conclusion based on their values if B1M1 awarded

Q1ft

Alternative Method

40 or 50 or 35 or 20 or 25
May be implied

B1

Total build up method
eg 10, 20, 30, 40, ..., 170
or 40, 90, 125, 145, 170

Allow one error or omission of one coin

M1

170

A1

Correct conclusion based on their total money raised

Strand (iii)

ft correct conclusion based on their total if B1M1 awarded

Q1ft

- (b) $70 \div 4$ or $7 + 7 + 3.5$ or 0.25×70
oe

M1

17.50

Strand (i)

17.5 is M1 Q0

Q1

[6]

Q3.

- (a) C&O frequency = 5

B1

Three tally marks in BBQ

B1

- (b) Key 1 circle represents 2 people or

Half circle represents 1 person

One and a half circles represents 3 people

B1

6 circles in Plain

and

2.5 circles in C&O

*B1 6 circles in Plain **or** 2.5 circles in C&O*

ft their fully completed key

Only award B2ft if BBQ row is also correct for their key

B1ft one row matching their key

B2ft

[5]

Q4.

- (a) Bar of height 4 labelled Coffee or C

and

Bar of height 5 labelled Juice or J (in either order but with a gap of 1 square between all bars)

B1 for one of the bars labelled and correct

or

B1 for diagram fully correct but missing or incorrect label(s)

or

B1 for diagram fully correct but no gaps or incorrect gaps

B2

- (b) 7 (boys)

B1

their 7 – 4

Subtraction may be implied by correct ft answer of their 7 – 4

M1

3

ft B0M1 but must be integer answer for A1

A1ft

[5]

Q5.

7 in strawberry frequency column

B1

5 bar gate in tally for MCC

B1

Key = 2 people

B1

5 cones in vanilla and $2\frac{1}{2}$ cones in MCC

correct or ft their key

B1ft

Additional Guidance

Must use the 5 bar gate notation.

Ignore other tallies eg in the row for 30.

Mark intention for the half cone ie if it looks different then give bod since it's a hard symbol to draw.

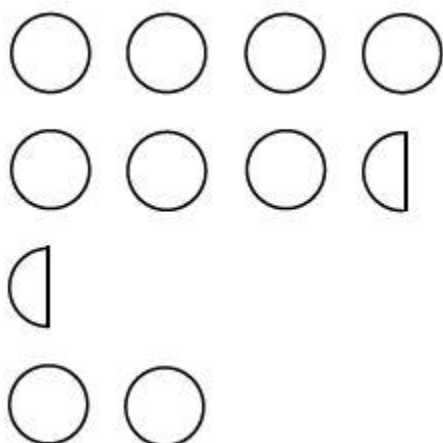
Don't worry about alignment of symbols in the pictogram.

Allow key to be correctly modified to equivalent key.

[4]

Q6.

Fully correct with circles left aligned



B2 for 3 rows correct

B1 for 1 or 2 rows correct

SC1 for pictogram with symbols in correct ratio

eg 8 circles on 1st row, 7 circles on 2nd row, 1 circle on 3rd row and 4 circles on 4th row

B3

Additional Guidance

Accept D for half circle

[3]

Q7.

(R =) 16 (days) or 4 (symbols)

or

(Sn =) 10 (days) or 2.5 (symbols)

or

(C =) 18 (days) or 4.5 (symbols)

or

(total =) 44 (days) or 11 (symbols) or evidence of addition with answer of 11 (symbols)

or $55 \div 4$ or 13.75 (symbols)

M1

55 – their 16 – their 10 – their 18

or $55 - 44 (= 11)$

oe

at least one of 16, 10, 18 correct

or

2 values for Sun and Fog with a total of 11

may be on diagram

or

their 13.75 – 11 or 2.75

M1dep

6 and 5

or

Sun = 1 full and 1 half symbol

or

Fog = 1 full and 1 quarter symbol

either order, may be on diagram

A1

Sun = 1 full and 1 half symbol

and

Fog = 1 full and 1 quarter symbol

ft their 11 days (must be an odd number)

where Sun is one more than Fog

A1ft

Additional Guidance

Mark intention for drawings, quarter and half symbol any orientation or angle. Must be attempt at correct size

11 with no working seen or their symbols totalling 11 quarters

M1M1

[4]

Q8.

- (a) $1\frac{1}{4}$ symbols added to Geography
mark intention

B1

- (b) **Alternative method 1 – pieces of homework**

5×4 or 20

or 3.5×4 or 14

oe

check diagram

M1

$5 \times 4 + 3.5 \times 4 + 5$

or their $20 +$ their $14 + 5$ or 39

oe

M1dep

19 hours 30 minutes

A1

Alternative method 2 – time taken

Correct method to find the time taken (in minutes or hours) for one subject

M1

Correct method to find the time taken (consistently in minutes or hours) for all three subjects

or 1170 (min) or 19.5 (h)

check diagram

eg (in minutes)

$5 \times 4 \times 30$ or 600 (M)

$3.5 \times 4 \times 30$ or 420 (E)

$1.25 \times 4 \times 30$ or 150 (G)

eg (in hours)

5×2 or 10 (M)

3.5×2 or 7 (E)

1.25×2 or 2.5 (G)

M1dep

19 hours 30 minutes

A1

Alternative method 3 – number of symbols

$5 + 3.5 + 1.25$ or 9.75

oe

M1

their 9.75×4 or 39

oe

M1dep

19 hours 30 minutes

A1

Additional Guidance

$19\frac{1}{2}$ (hours) or 19.5 (hours) or 19.30

M1M1A0

Mark using the Alt that gives the best mark

[4]

Q9.

Fully correct

Gold	☐	☐			
Silver	☐	☐	☐	☐	
Bronze	☐	☐	☐		

B2 for 2 rows correct including Bronze

B1 for 1 row correct

SC1 for pictogram with symbols in correct ratio

eg 4 squares on 1st row, 8 squares on 2nd row and 5 squares on 3rd row

B3

Additional Guidance

Accept any division for half a square eg a diagonal

[3]

Q10.

5×20 or 100

or

2×20 or 40

or

$5 - 2$ or 3

or

5×4 or 20 **and** 2×4 or 8 **and** $20 - 8$ or 12

oe

eg $20 + 20 + 20$

eg $20 + 20 + 20 + 20 + 20$

may be by the diagram

M1

60

A1

Additional Guidance

Answer 60b BOD 60 bottles

M1A1

Further work eg $60 + 30 = 90$

M1A0

[2]

Q11.

Alternative method 1

6×8 or 48

or

4.5×8 or 36

or

$6 + 4.5$ or 10.5

oe

may be seen on the pictogram

implied by 84

M1

$100 - (\text{their } 36 + \text{their } 48)$

or $100 - 84$

or $100 - \text{their } 10.5 \times 8$

or 16

oe

one of their 36 and their 48 must be from a correct method

may be seen on the pictogram

M1dep

2 circles drawn

A1

Alternative method 2

$6 + 4.5$ or 10.5

may be seen on the pictogram

M1

$100 \div 8$ or 12.5

M1

2 circles drawn

A1

Additional Guidance

Circles do not need to be aligned

Mark intention for size and shape of symbols

Build up method may be seen

eg $10 \times 8 = 80 + 8 + 8 = 96 + 4 = 100$

M2

2 circles drawn with no working

M2A1

[3]

Q12.

Alternative method 1

$$6\frac{1}{4} \times 20 \text{ or } 125$$

$$6 \times 20 + \frac{1}{4} \times 20 \text{ or } 120 + 5$$

oe eg
may be by the diagram

M1

$$\text{their } 125 \times 17.5(0)$$

oe

M1

$$2187.5(0)$$

A1

Alternative method 2

$$6\frac{1}{4} \times 17.5(0)$$

$$\text{or } 109.375 \text{ or } 109.37 \text{ or } 109.38$$

$$6 \times 17.5(0) + \frac{1}{4} \times 17.5(0)$$

oe eg
or 105 + 4.375

M1

$$\text{their } 109.375 \times 20$$

oe

M1

$$2187.5(0)$$

A1

Alternative method 3

$$20 \times 17.5(0) \text{ or } 350$$

oe

M1

$$\text{their } 350 \times 6\frac{1}{4}$$

$$350 \times 6 + \frac{1}{4} \times \text{their } 350$$

oe eg their
or 2100 + 87.5(0)

M1

$$2187.5(0)$$

A1

Additional Guidance

$$2187.50\text{p}$$

M1M1A1

Alt 1

$$6 \times 20 = 120$$

M0

$$120 \times 17.5(0)$$

M1A0

Alt 2

$$6 \times 17.5(0) = 105$$

M0

$$105 \times 20$$

M1A0

[3]

Q13.

Alternative method 1

4.5×2 or 9

and

5×2 or 10

and

1.5×2 or 3

allow one error or omission

M1

their 9×3 and their 10×4 and their 3×5

or

27 and 40 and 15

their numbers of houses must be whole numbers

M1dep

82

A1

Alternative method 2

4.5×3 and 5×4 and 1.5×5

or 13.5 and 20 and 7.5

or 41

allow one error or omission

M1

$2 \times (4.5 \times 3 + 5 \times 4 + 1.5 \times 5)$

or

$2 \times (\text{their } 13.5 + \text{their } 20 + \text{their } 7.5)$

or

$2 \times \text{their } 41$

M1dep

82

A1

Additional Guidance

Two of 27, 40 and 15 correct implies first method mark

M1M0

22 without working

M0

[3]

Q14.

Key is missing

oe

implied by correct key drawn

B1

Symbols are inconsistent

oe

eg Prawn Cocktail should have half a symbol

or

eg if Prawn Cocktail is right the others are wrong

or

eg total is incorrect

B1

Additional Guidance

Ignore irrelevant or incorrect statements

Examples of 'Key is missing' for B1

Not labelled what each quarter represents

Hasn't said what a full circle shows

Doesn't say how many people is one piece

Examples of 'Symbols are inconsistent' for B1

Nicki's total is 32 not 30

The pictogram has inconsistent values

4 for PC it should be 2

Prawn Cocktail is the wrong amount

Prawn Cocktail is two, but there's a whole circle

Incorrect results displayed on chart

B0

[2]

Q15.

- (a) (One test) One and a half symbols
allow any orientation for the half circle

B1

(Two tests) Three symbols

B1

(Three tests) Four symbols

*SC1 totals seen for either pictogram
ie 12, 16, 6 for group A
or 6, 12, 16 or 1.5, 3, 4 for group B*

B1

Additional Guidance

Mark intention eg accept any attempt at circle and half circle symbol (unless obviously intended to be quarter or three-quarter circle) and allow different sizes and symbols such as plain circles

Two half circle symbols are not acceptable for a whole circle (unless joined to make a circle)

Alignment of symbols is not being tested

Apart from the Special Case, ignore numbers given

SC1 may be implied by 6, 12 and 16 symbols

One test	
Two tests	
Three tests	

B1B1B1

- (b) $\frac{17}{25}$ or 0.68 or 68%
or
25 – 17 or 8 seen

*oe
may be seen in a calculation*

eg 1 - $\frac{17}{25}$

M1

$\frac{8}{25}$ or 0.32 or 32%
oe

A1

Additional Guidance

Ignore simplification or conversion if correct answer seen

$\frac{8}{25}$ in working or on answer line with 8 on answer line

M1A0

Ignore words if correct answer seen eg $\frac{8}{25}$ unlikely

M1A1

Answer 8 : 25 or 8 : 17 or 17 : 8 (even if correct answer also seen)

M1A0

8 out of 25 without correct answer seen

M1A0

Answer 17 : 25 only

M0A0

eg $\frac{8}{17}$ or $\frac{1}{8}$ or 8% implies 8

M1

[5]

Q16.

(a) **Alternative method 1**

$$60 \div 4 = 15$$

M1

their $15 \div 3$ or 5

M1

25

A1

Alternative method 2

£12 for 5

M1

$$60 \div 12 = 5$$

M1

25

A1

(b) $4 + 3.5 + 3 + 1.5$ or 12

oe

Allow one error

M1

$48 \div$ their 12 or 4

M1

Their 4×3.5

oe

dependent on 2nd method mark

M1dep

14

A1

[7]

Q17.

$40 \div 5$ or 8

may be seen on diagram eg 8 in one of the circles or as a key

implied by  = 4

M1

their 8×3.5

or

their 8

their 8 + their 8 + their 8 + 2

oe calculation that would evaluate to 28

eg $8 + 8 + 8 + 4$ or $3 \times 8 + 4$

or their 4×7

M1dep

28

A1

Additional Guidance

Answer 28

M1M1A1

Condone recovery eg $8 \times 3 + \frac{1}{2} = 28$

M1M1A1

Only eg $8 \times 3 + \frac{1}{2}$ with no recovery to 28

M1M0A0

Further work

eg $8 \times 3.5 = 28$, 28×4 (and answer 112)

M1M0A0

eg Chicken = $8 + 16 + 24 + 28$

M1M0A0

[3]

Q18.

(a) School

B1

Additional Guidance

School and 26

B1

26

B0

(b) 4 in key

B1

$6\frac{1}{2}$ symbols in 'School'
ft their key $\neq 1$

B1ft

$2\frac{3}{4}$ symbols in 'Guides'
ft their key $\neq 1$

B1ft

Additional Guidance

Key: ○ represents 4 friends

Family	○○
Netball	○○
School	○○○○○○○ $\frac{1}{2}$
Guides	○○ $\frac{3}{4}$

B3

Half circle and three-quarter circle can be any orientation
Three-quarter circle must be an attempt at a **single** sector or arc (not a circle cut vertically or drawn smaller) but may be rotated
Mark intention for size and shape of symbols. Must be sectors or arcs
If the key is blank they can score B0B1B1 for 6.5 and 2.75 symbols
Ignore any symbols added to the first two rows

[4]

Q19.

(a) 4

B1

Additional Guidance

4 must be shown on the answer line in the key

(b) 15

Correct or ft 3.75 × their 4 from (a) if their 4 is a multiple of 4

B1ft

Additional Guidance

(a) key blank or incorrect (b) 15

B1

(a) 8 (b) 30

B1ft

(a) 10 (b) 37.5 (or 37 or 38)

B0ft

If answer line blank and 15 seen next to female row of pictogram

B1

(c) The sample is too small
or the results may be biased
or the sample is not representative

B1

Additional Guidance

This was **only** / **just** 1 hour

B1

More men might come at different times

B1

It might have been a girls' school using it

B1

There were **only** / **just** 25 people in the survey

B1

The results may change

B1

Ignore irrelevant comments alongside a correct statement e.g. There isn't an equal number of males and females. A bigger sample is needed

B1

Biased

B1

Unfair

B0

Should do it for longer until there is an equal number of males and females

B0

It was for 1 hour

B0

The results are about people not lockers

B0

Not a lot of people use the family changing room

B0

In that hour not many people used the changing rooms

B0

[3]

Q20.

(a) **Alternative method 1**

$$35 \div 5 = 7$$

M1

their $7 \div 2$ or 3.5 or 3

M1

10

SC2 10.5

A1

Alternative method 2

£10 for 3

M1

£30 for 9

M1

10

SC2 10.5

A1

(b) $5 + 3.5 + 2 + 2.5$ or 13

oe

Allow one error

M1

$260 \div$ their 13 or 20

M1

their 20×2.5

oe

dependent on 2nd method mark

M1dep

50

A1

[7]

Q21.

This question has been adapted to better suit the style of the current specification

(a) Fully correct and symbols lined up vertically

B2 correct number of whole symbols for either pepperoni or vegetable

and

correct number of whole and half symbols for margherita or chicken

B1 correct number of whole symbols for either pepperoni or vegetable

or

correct number of whole and half symbols for margherita or chicken

Additional Guidance

Margherita	
Pepperoni	
Salami	
Vegetable	

Additional Guidance

Symbols do not need to be lined up perfectly, but the lengths of the rows should be in order

B3

(b) $\frac{8}{20}$ or $\frac{4}{10}$ or $\frac{2}{5}$
or $8 \div 20$ ($\times 100$) or $0.4(0)$

M1

40

A1

(c) $13.5(0) \div 3$ or $4.5(0)$

M1

$13.5(0) - \text{their } 4.5(0)$ or $9(.00)$

or

$13.5(0) + 2.4(0)$ or $15.9(0)$

$13.5(0) \times \frac{2}{3}$ oe gets M2

M1

their $9(.00) + 2.4(0)$

or

their $15.9(0) - \text{their } 4.5(0)$ or $11.4(0)$

M1

their $11.4(0) \div 100 \times 10$ or 1.14

or their $11.4(0) \times 1.1$

oe

M1

12.54

SC4 11.66

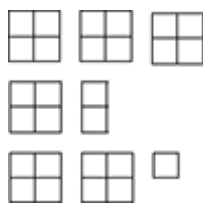
A1

Additional Guidance

SC4 is for including drink in the discount

Q22.

(a)



For each row allow the correct number of squares / rectangles

B1 one or two correct rows

SC1

😊	😊	😊	😊	😊	😊
😊	😊	😊			
😊	😊	😊	😊	😊	😊

B2

- (b) (comedy =) 10 or (romance =) 5
or (Tuesday total =) 17

M1

$$27 + 10 + 2 + 5$$

or

$$12 + 6 + 9 + 10 + 2 + 5 \text{ or } 44$$

or

$$12 + 10 \text{ or } 6 + 9 + 2 + 5 \text{ or } 22$$

44 or 22 implies M2

M1

44 and 22 and Yes

or

22 and 22 and Yes

Strand (ii)

SC2 61 and 32 and No

Q1

[5]

Q23.

- (a) Correct values and correct use of 5 bar gate

QWC strand (i) correct notation

Q1

Archery 4, Biking 6, Horse riding 2, Karting 3

ft their tallies, or correct.

B1 ft

- (b) Correct number of symbols for all 4 drawn.

Archery 2, Biking 3, Horse riding 1, Karting 1½

B1 for 3 correct.

B2 ft

- (c) Biking

B1

(d) $\frac{2}{15}$

B1

[6]

Q24.

|||| and |||||

B1

9 and 12

B1

31

ft from their frequencies

B1ft

[3]

Q25.

(a) 8

B1

(b) 6 (-) 4 or $4 \div 2$

$1 \frac{1}{2}$ – 1(symbols) or $\frac{1}{2}$ symbol chosen

M1

2

A1

(c) Football

B1

[4]

Q26.

(a) Silver

B1

(b) $1 + 2 + 4 + 1 \frac{1}{2} + 1 + \frac{1}{2}$ (= 10 cars)
or a correct number of people for at least one row
Allow one error

M1

2

A1

(c) $(4 - 1 \frac{1}{2}) \times \text{their } 2$

$4 \times \text{their } 2 (-) 1 \frac{1}{2} \times \text{their } 2$

M1

5

ft their $2 \times 2 \frac{1}{2}$ (rounded or truncated to the nearest integer)

A1 ft

[5]

Q27.

(a) 7

B1

(b) 3 symbols drawn

B1(c) 6×2 or 12
or 5×2 or 10**M1**

$$6 \times 2 - 5 \times 2$$

$$\text{or } 12 - 10$$

$$10 + 2 = 12$$

M1dep

2

A1**[5]****Q28.**

12 (goldfish) seen or implied

B1

25 – (their 12 + 4) or 9 oe

*Condone 0 goldfish**Can be implied if Cats + Dogs = 9***M1**Their $9 \div 3$ *Accept embedded eg $3 \times 3 = 9$* **M1**

3

SC2 for 10, 5 (from 6 goldfish)

6

*SC2 for 14, 7 (from 0 goldfish)**SC3 for 6, 3**SC3 for 7, 14 (from 0 goldfish)**SC3 for 5, 10 (from 6 goldfish)***A1****[4]**

Q29.

- (a) Symbol represents 10 members

B1

Correct number of symbols for one row

Basketball (1)

Netball $\left(1\frac{1}{2}\right)$

Follow through from their key (not symbol =1)

M1

Two correct rows

ft wrong key (not symbol = 1)

A1 ft

- (b) Suitable headline reflecting data

Condone any valid statement about results eg

Most people do football

More do football than all the others in total

70 people go to sports clubs

B1

- (c) $40 \div 5 (= 8)$ or $40 \div 2 (= 20)$ or $2 \times 5 (= 10)$

oe

M1

4

A1

[6]

Q30.

(a) 50

B1

(b) Bicycle

B1

(c) 35 and 25 **chosen**
or 35 – their 25
or their 35 – 25

$3\frac{1}{2}$ and $2\frac{1}{2}$ **chosen**
or $3\frac{1}{2}$ – their $2\frac{1}{2}$ or their $3\frac{1}{2}$ – $2\frac{1}{2}$ or 1 symbol

M1

10

A1

(d) Attempts a suitable graph with 3 or 4 bars
Condone vertical line graph

M1

Heights correct 50, 35, 20, 25
ft their part (a)
A1 one error
± ½ small square

A2ft

Numerical axis correctly scaled
Linear between 0 and their tallest bar, ignore scaling beyond that

B1

Bar chart with labels **and** equal width bars **and** equal gaps
Strand (ii)
Labels may be eg frequency or number of people and car, bus, bicycle, tram
Must have gaps

Q1

[9]

Q31.

(a) 4

B1

(b) 5 (+) 3.5 (+) 6 (+) 1.5 or 16 seen
or one of $3.5 \times (a)$, $6 \times (a)$ or $1.5 \times (a)$
or any number $\times$ their (a)

oe

M1

their $16 \times$ their 4

or $20 +$ their $11 \times$ their 4

or (their) $20 +$ their 14 + their 24 + their 6

oe

M1dep

64

Unless key = 1

ft their key $\times$ 16 or ft 20 + their key $\times$ 11

A1 ft

[4]

Q32.

(a) $20 \div 3.99$ or

or 5.0 ... seen

$2000 \div 399$ or

$20 \div 4$ or

$2000 \div 400$

M1

5

A1

Alternative method

$3.99 \times 5 (=19.95)$ oe

or $399 \times 5 (=1995)$

M1

5

A1

(b) (i) Sport

Accept any unambiguous representation of sport eg s

B1

(ii) $10+5$ or

35 seen or

$1\frac{1}{2}$ seen

M1

15

A1

[5]

Q33.

(a) (i) 40

B1

(ii) their $40 + 80 + 60 (= 180)$

Allow one error or omission

M1

250 – their 180

Must subtract all three months

M1

Bar drawn to 70

SC1 bar drawn to their 70

A1

(b) $80 - 30$ or 5×10

Condone $80 - 25$ for M1

M1

50

Must show working SC1 50 no working SC1 $8 - 3 = 5$

A1

(c) (i) $80 + 50 + 30 + 70 (= 230)$

or $4 \times 50 (= 200)$

Condone $8 \times 50 (= 400)$

M1

250 + their 230 + their 200

or their 400 + their 230 (= 630)

M1

680

$430 \Rightarrow M1 M0 A0$

$630 \text{ seen} \Rightarrow M1 M1 A0$

A1

(ii) $0.5 \times$ their 680

oe

M1

340

A1 ft

[11]

Q34.

- (a) (i) 4, 3, 12, 9

B1 three correct

B2

28

ft frequencies or correct from tallies

B1 ft

- (ii) $\frac{\text{their 4}}{\text{their 28}}$

oe

B1 ft

$\frac{1}{7}$

ft correct cancelling of any fraction

B1 ft

- (b) Symbol represents 2 birds

B1

Correct number of symbols for
blackbird (3)

starling $\left(2\frac{1}{2}\right)$

sparrow $\left(1\frac{1}{2}\right)$

ft their key or correct

(not symbol = 1 unless 2 more symbols added in robin row)

B1 ft for one or two rows correct

Allow half bird cut anywhere

B2 ft

Their completed pictogram, symbols aligned

Strand (ii)

Logical organised working

Q1

- (c) 8 000 000

B1

8 million $\div$ 500 000 or their 8 000 000 $\div$ 500 000

oe eg 8 $\div$ 0.5

Digits 16 implies M1

M1

16

ft their 8 000 000 in digits

SC1 $\frac{1}{16}$ or 0.0625

A1 ft

- (d) blackbird (flies away)

B1

robin (arrives)

B1

Accept any clear indication eg B, R

SC1 answers wrong way round

SC1 Robin 4, Blackbird 3

Q35.

- (a) One correct method eg $0.3 \times 360 (= 108 \text{ degrees})$

M1

All correct angles drawn $\pm 2^\circ$

108, 72, 180

A1 one correct angle calculated or drawn

A2

Structure correct

Strand (iii)

3 sector pie chart with labels in correct order of size

Q1

- (b) $5 + 3 + 2 (= 10 \text{ (cups)})$

1 cup = 8

M1

$80 \div \text{their } 10 \times 5$

oe their 8×5

Award M2 for $80 \div 2$

M1

40

If 40 seen with cola, ignore further work

A1

- (c) (i) Any correct comment

eg orange most in morning

If quantified must be correct

B1

- (ii) Lemonade

B1**[9]**

Q36.

(a) 20

B1

(b) Mathematics

(c) (i) Attempts a dual bar chart

Allow errors if intention clear

B1

Structure correct

*Bars paired, vertical scale numbered, horizontal scale labelled,
key/labels for Nick and Jen*

B1

Heights all correct

*Using their scale, linear between
40 and 90*

B1 all but one or two heights correct

B2

Alternative method 1

Turns Nick's pictogram into a bar chart, scales structure and heights correct

Vertical scale and horizontal labels

Structure including equal gaps

Heights

B2 for two correct

B1 for one correct

Max B3

Alternative method 2

Turns Jen's bar chart into a pictogram, structure, number of symbols, key

B2 two of structure, number of symbols and key

B1 one of structure, number of symbols and key

Max B3

(ii) 3 correct comparisons

B1 ft 2 correct comparisons

eg English was Jen's best score but

Mathematics was Nick's best score ft their diagram

B2 ft

A comparative statement for Nick and Jen for one subject
or totals or means or ranges

Strand (iii)

Q1

[9]