M1.

9

B1

6

B1

[2]

M2.

Alternative method 1

Mid values seen (continuous data)

5, 15, 25, 35 and 45

Allow one error

M1

All products seen for their mid values

4 × 5 or 20

8 × 15 or 120

9 × 25 or 225

3 × 35 or 105

1 × 45 or 45

or 515

Allow one calculation error

M1dep

their (20 + 120 + 225 + 105 + 45) ÷ 25

their 515 ÷ 25

or 20.6 or 21

or 22 × 25 or 550

M1dep

20.6 or 21 and no

SC2 15.6 or 16 and no

or 16.6 or 17 and no

or 25.6 or 26 and yes

or 515 and 550 and no

or 390 or 400 or 415 or 425 and 550 and no
or 640 or 650 and 550 and yes

A1

Alternative method 2
Mid values seen (discrete data)
5.5, 15.5, 25.5, 35.5 and 45.5
Allow one error

M1

All products seen for their consistent mid points

4 × 5.5 or 22

8 × 15.5 or 124

9 × 25.5 or 229.5

3 × 35.5 or 106.5

1 × 45.5 or 45.5

or 527.5
Allow one calculation error

M1dep

their (22 + 124 + 229.5 + 106.5 + 45.5) ÷ 25

their 527.5 ÷ 25

or 21.1 or 21

or 22 × 25 or 550

M1dep

21.1 or 21 and no
SC2 15.6 or 16 and no
or 16.6 or 17 and no
or 25.6 or 26 and yes

or 527.5 and 550 and no
or 390 or 400 or 415 or 425 and 550 and no
or 640 or 650 and 550 and yes

A1

Additional Guidance
Beware, sight of 5 is not necessarily the first mid value as there are 5 groups
Beware, the middle of the middle class is 25

[4]

M3.(a) mode A = 6 **or** mode B = 4

or

6 (with 9) **and** 4 (with 12) chosen

M1

(mode A =) 6 **and** (mode B =) 4 **and** Yes

A1

(b) (range A =) 7 − 2 or 5

or

(range B =) 6 − 3 or 3

M1

(range A =) 5 **and** (range B =) 3 **and** Yes

A1

[4]

M4.(a) 15 and 10 in either order

B1 15 with a number less than or equal to 15
or
two numbers with a total of 25

B2

(b) 17 and 11 in either order

B1 two numbers giving a range of 6 for set C
or
two numbers with a total of 28

B2

[4]

M5.(a) $\frac{11}{50}$ or 0.22

oe
B1 for numerator 11
or denominator 50
or 11 out of 50
or 11 in 50
Ignore fw

B2

(b) 1 × 9 (+) 2 × 12 (+) 3 × 18 (+) 4 × 7 (+) 5 × 4

or 9 (+) 24 (+) 54 (+) 28 (+) 20

oe
Allow one error
May be in table

M1

135

A1

[4]

M6.

1 2 4 4
or
1 3 5 5
or
2 3 5 5
or
1 4 6 6
or
2 4 6 6
or
3 4 6 6

B1 a set of 4 numbers between 1 and 6 with a single mode
Or a set of 4 numbers between 1 and 6 with median identified/calculated
SC1 for 1 1 3 3
or 2 2 4 4
or 3 3 5 5

or 4 4 6 6

or 1 1 1 1 or 2 2 2 2 etc (up to 6 6 6 6)

B2

[2]

M7.

(a) 1 2 4 4
or
1 3 5 5
or
2 3 5 5
or
1 4 6 6
or
2 4 6 6
or
3 4 6 6

B1 a set of 4 numbers between 1 and 6 with a single mode

Or a set of 4 numbers between 1 and 6 with median identified/calculated

SC1 for 1 1 3 3

or 2 2 4 4

or 3 3 5 5

or 4 4 6 6

or 1 1 1 1 or 2 2 2 2 etc (up to 6 6 6 6)

B2

(b) (1 × 10) + (2 × 7) + (3 × 9) + (4 × 5) + (5 × 8) + (6 × 11)
Or 10 + 14 + 27+ 20 + 40 + 66

Attempt at $\sum fx$. Allow one error.

M1

Their 177 ÷ 50

Allow their 50 if clear attempt at $\sum f$ is seen.

M1

3.54

Ignore rounding to 3.5 or 4 if 3.54 seen.

4 with no working is M0A0

A1

[5]

M8.(a) Subtracting two amounts with one correct

124 − 79.5

or

124 and 79.5 chosen

79.5 + 44.5 = 124

M1

44.50

Condone 44.5

A1

(b) 124 + 79.5(0) + 122.5(0) + 96 + 85 or 507

Allow one error or omission

M1

their total ÷ 2

Condone bracket error ie

124 + 79.5(0) + 122.5(0) + 96 + 85 ÷ 2 or 464.5(0) for M2

M1

253.50

Strand (i) Correct notation

253.5 is M2Q0

SC2 760.50

SC1 760.5

Q1

Alternative method

At least **two** of these divisions

124 ÷ 2	or 62
79.5(0) ÷ 2	or 39.75
122.5(0) ÷ 2	or 61.25
96 ÷ 2	or 48
85 ÷ 2	or 42.5(0)

M1

their 62 + their 39.75 + their 61.25 + their 48 + their 42.50

Allow one omission

M1

253.50

Strand (i) Correct notation
253.5 is M2Q0
SC2 760.50
SC1 760.5

Q1

Additional Guidance

If they do further division, mark the **whole** method eg 507 ÷ 2 ÷ 2 M1M0

[5]

M9.(a) Pink

B1

(b) Yellow

B1

[2]

M10.(a) Subtracting two amounts with one correct

83 − 57.7

or

83 and 57.7 chosen

57.7 + 25.3 = 83

M1

25.3

Condone 25 300 000

A1

(b) 0.21 × their 126 200

oe
Condone any attempt to incorporate the million

Digits 26 502 imply M1

M1

26 502

Condone 26 502 000 000
SC1 99 698

A1

Additional Guidance

Allow the method for 21% of any value from table (or misread)

Possible answers are 17.43, 14.07, 12.117, 11 256, 11 739

Must be using correct value for full marks

Mark the **whole** method so further working will not score (except for those who misread and work out 21% off − see SC1)

(c) 36 600 000 000 ÷ 29 300 000

or

36 600 (million) ÷ 29.3 (million)

Digits 1249... or 125... imply M1

M1

1249. ...

May be implied by 1250

A1

1250

ft any answer correctly rounded to the nearest 10

B1ft

[7]

M11. 5, 5 and 14

Any order

Conditions are
three positive numbers
mode 5
median 5
range 9
B1 for 2 or 3 conditions satisfied

B2

Additional Guidance

There are four condition to meet:
1. All three numbers must be positive
2. The mode must be 5
3. The median must be 5
4. The range must be 9

5, 5, –4 (satisfies three conditions but not positive)

B1

5, 5, blank (satisfies two conditions)

B1

Candidates who put more than 3 numbers score B0
Candidates who put 1 number score B0

[2]

M12.70 × 5 or 350

M1

their 350 – (65 + 80 + 76 + 69)

M1dep

their 350 – 290

60

A1

Additional Guidance

Embedded answer of 60 is 2 marks

[3]

M13.(a) 9

)

Ignore working which may be for 4(b)

B1

(b) 5 7 (9) 9 10

*Numbers arranged in ascending or descending order **and** a clear indication that 9 is the middle number*

or

A clear and complete statement that 9 is the middle number when you arrange them in order

B1

[2]

M14.3

B1 for 8 seen as value of X for Set A

or 3 seen as value of X for set A but different value for set B

B2

[2]

M15.1 2 2 2 3

Any order

B1 for two conditions met

eg 1 1 2 2 3

1 1 2 2 2

1 2 2 3 …

1 2 2 3 4

B2

[2]

M16.

(a) 10, 10, 10, 11, 11, 12, 12, 13, 13, 15

Ordering. All 10 or 6 from either end

M1

11.5

A1

(b) 10 + 10 + 10 + …. or 117 seen

Attempt at $\sum x$

M1

Their 117 ÷ 10

M1

11.7

Ignore rounding to 12 if 11.7 seen

A1

(c) Her average was (close to) 12
or
Mean or median rounds to / is about 12

B1

[6]