

M1.

800 or 1600 or 200 or 60 or 120 or 100

M1

800 or 1600
and
200
and
60 or 120 or 100

M1

1920 or 1900 or 2000

*SC1 1900 without working
or 1900 from 1899*

A1

[3]

M2.

32

B1 4 or 16 or 0.5

B2

[2]

M3.(a) $26 \div 4$ or 6.5

or $26 \times 20 \times \frac{1}{4}$ or 130

M1

26 – their 6.5

or $26 \div 4 \times 3$ or $(520 - 130) \div 20$ or $390 \div 20$

or $(520 - \text{their } 130) \div 20$

or their $390 \div 20$

oe

M1dep

19.5

A1

(b) Any trial with correct factors giving 168 except 1×168

or any correctly evaluated product

such that $10 \leq \text{rows} \leq 13$ and

$10 \leq \text{seats} \leq 16$

2 (x) 84 or $168 \div 2 = 84$

3 (x) 56 or $168 \div 3 = 56$

4 (x) 42 or $168 \div 4 = 42$

6 (x) 28 or $168 \div 6 = 28$

7 (x) 24 or $168 \div 7 = 24$

8 (x) 21 or $168 \div 8 = 21$

12 (x) 14 or $168 \div 12 = 14$

oe

M1

A different trial with correct factors giving 168 except 1×168

or a different correctly evaluated

product such that $10 \leq \text{rows} \leq 13$ and

$10 \leq \text{seats} \leq 16$

M1dep

12 rows

SC2 for 12 seats and 14 rows

14 seats

SC2 for 12 and 14 as final working

A1

[6]

M4.

(a) 2.17158...

B1

(b) 2.2

*ft their answer to (a)***B1ft****[2]****M5.(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) $36\,600\,000\,000 \div 29\,300\,000$

or

$36\,600$ (million) \div 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]

M6.100 seen

M1

20

A1

[2]

M7.10 or 40 used as an approximation

M1

400 or 410

A1

[2]

M8. Sight of 20, 0.5, 10 or 2

M1

$$\frac{20 \times 0.5}{2}$$

oe $\frac{10}{2}$ or 10×0.5 or 20×0.25

M1

5

A1

[3]

M9. Attempt to count squares
or any area calculation e.g. 4×7

Evidence of counting areas e.g. dots or numbers in shaded squares

M1

[22, 27]

A1 for [19, 22) or (27, 30]

A2

[3]

M10. 2.2 pounds = 1000 grams seen or implied

May be implied from working

$$1 \div 2.2 (= 0.45 \text{ kg}) (= 1 \text{ pound})$$

M1

$$(1 \text{ pound} =) 1000 \div 2.2$$

$$(= 454 \dots \text{ grams})$$

$$(1 \text{ gram} =) 2.2 \div 1000 (= 0.0022 \text{ pound})$$

$$\text{or } 1 \div 2.2 \times 1000$$

$$1 \div 2.2 \times 0.5 (= 0.227 \dots \text{ grams})$$

[454, 455] or 450

[0.227, 0.2275] or 0.225 or 0.230

M1

$\frac{1}{2}$ pound \Rightarrow $1000 \div 2.2 \div 2$

$100 \text{ grams} = 2.2 \div 1000 \times 100$
 $(= 0.22 \text{ pounds})$

$(= 227.2 \dots \text{ grams})$

or $200 \text{ grams} = 2.2 \div 1000 \times 200 (= 0.44 \text{ pounds})$

[227, 227.5] or 225 or 230

or $250 \text{ grams} = 2.2 \div 1000 \times 250$
 $(= 0.55 \text{ pounds})$

or $500 \text{ grams} = 2.2 \div 1000 \times 500$
 $(= 1.1 \text{ pounds})$

M1

[227, 227.5] or 225 or 230 and 250 g stated

$0.55 \text{ (pounds) and } 250 \text{ g stated}$

$0.44 \text{ (pounds) and } 250 \text{ g stated}$

SC3 for e.g. $0.227 \text{ and } 250 \text{ g stated}$

A1

Alternative method

2 pounds = 1000 grams seen or implied

May be implied from working

$1 \div 2 (= 0.5 \text{ kg}) (= 1 \text{ pound})$

M1

(1 pound \Rightarrow) $1000 \div 2$
 $(= 500 \text{ grams})$

$(1 \text{ gram} \Rightarrow) 2 \div 1000 (= 0.002 \text{ pound})$

or $1 \div 2 \times 1000$
 $(= 500 \text{ grams})$

$1 \div 2 \times 0.5 (= 0.25 \text{ grams})$

M1

$$\frac{1}{2} \text{ pound} = 1000 \div 2 \div 2$$

(= 250 grams)

100 grams = $2 \div 1000 \times 100$ (= 0.2 pounds)
 or 200 grams = $2 \div 1000 \times 200$ (= 0.4 pounds)
 or 250 grams = $2 \div 1000 \times 250$ (= 0.5 pounds)
 or 500 grams = $2 \div 1000 \times 500$ (= 1 pound)

M1

250 g stated

SC3 for e.g. 0.25 and 250 g stated

A1

[4]

M11. $\frac{40 \times 200}{80}$

M1 for any two shown in the appropriate calculation
 M1 for $41 \approx 40$ **and** $198 \approx 200$ **and** $77 \approx 80$ clearly stated if not used in a calculation

M1

100

Correct answer only is M1A1 but must use correct approximations if working is seen

A1

[2]

M12.

(a) 1.4

oe

B1

(b) 1.26

B1

[2]

M13.

(a) 28 000

*Allow 28 thousand***B1**

(b) 28 400

B1(c) $5.30 + 1 \text{ h } 45 \text{ min} (= 7.15)$ *oe**1 h 45 min + 3 h 30 min (= 5 h 15 min)***or***105 min + 210 min (= 315 min)***M1**their $7.15 + 3 \text{ h } 30 \text{ min}$ *5.30 + their 5 h 15 min***M1**

10.45

*oe***A1**

Correct decision for their 10.45

*Strand (iii) Must score at least M1**SC1 10.05***Q1ft****Alternative 1** $10.00 - 3 \text{ h } 30 \text{ min} (= 6.30)$ *oe**1 h 45 min + 3 h 30 min (= 5 h 15 min)***or***105 min + 210 min (= 315 min)***M1**Their $6.30 - 1 \text{ h } 45 \text{ min}$ *10.00 - their 5 h 15 min***M1**

4.45

*oe***A1**

Correct decision for their 4.45

Strand (iii) Must score at least M1

SC1 10.05

Q1ft

Alternative 2

5.30 + 3 h 30 min (= 9.00)

M1

their 9.00 + 1 h 45 min

10.00 – their 9.00

M1

10.45

1 hour (and 1 h 45 min)

A1

Correct decision for

their 10.45 **or**

their 1 hour (and 1 h 45 min)

Strand (iii) Must score at least M1

SC1 10.05

Q1ft

Alternative 3

10.00 – 5.30 (= 4 h 30 min)

M1

1 h 45 min + 3 h 30 min

M1

5h 15 min **and** 4 h 30 min

A1

Correct decision for their 5h 15 min and their 4 h 30 min

Strand (iii) Must score at least M1

SC1 10.05

Q1ft

Use of incorrect decimal times (1.45 and 3.3). Eg,

5.3 + 1.45 + 3.3 scores M0M0A0Q0

5.3 + 1.45 + 3.3 = 10.05 scores SC1

5.3 + 1.45 → 6.75 + 3.5 = 10.25 scores M0M1A0Q0

Use of correct decimal times (1.75 and 3.5). Eg,

5.5 + 1.75 + 3.5 = 10.75 and No scores M1M1A0Q1

5.5 + 1.75 + 3.5 = 10.75 → 10.45 scores M1M1A1Q0

[6]

M14.(a) 300 or 600 or 50 or 100 or 20

M1

300 or 600

and

50 or 100

and

20

M1

720

SC2 480

SC2 860

SC2 719

SC1 any table value rounded to 1sf

SC1 715

SC1 720 without M1 awarded

A1

(b) $(349 + 349 + 59 + 59 + 39 \text{ or } 855) - (299 + 299 + 49 + 49 + 19 \text{ or } 715 \text{ or their incorrect total of exact values for July in part(a)})$

M1

140

ft 855 – their incorrect total of exact values in part(a)

A1ft

Alternative Method

$2 \times 50 + 2 \times 10 + 20$

or

$350 + 350 + 60 + 60 + 40 - \text{their } 720$

M1

140

ft 860 – their 720 from rounding in part(a)

A1ft
[5]

M15. 30 or 5

Allow 30.0 or 5.0

M1

150

Allow [145,156], but not 153.92 rounded.

A1
[2]

M16. Any two numbers approximated

ie 400, 402, 403, 2, 39 or 40

M1

All three numbers approximated or a calculation using two approximated values

eg $\frac{402.5}{78}$

M1

5

must come from $\frac{400}{2 \times 40}$

A1
[3]