M1.

$\frac{180}{3000}$ or $\frac{18}{300}$

or 1kg = 1000g seen or implied

oe fraction

eg 3000 or 0.18 seen

B1

$\frac{3}{50}$

B1ft

[2]

M2.

$\frac{150}{500}$ $(\times 100)$

oe

M1

30

A1

[2]

M3.

1 gallon = 4.5 litres stated or implied

e.g. their 144 ÷ 4.5

B1

40 × 40 × 90 or 144 000

M1

their 144 000 ÷ 1000 or 144

M1dep

32

A1

Additional Guidance

Note: use of 1 litre = 1.75 pints implies answer 31.5

B1M1M1A1

[4]

M4.

(a) 225

If answer line blank check table. 225 in 12 noon is B1

B1

(b) 152 − (116 − 27)

Or

152 − 89

oe

M1

63

For embedded 63 with different answer on answer line award M1A0

SC1 for correct answer from incorrect times used

8am to 9am → 69

10am to 11am → 77

A1

[3]

M5.

(a) 680

B1

(b) 1.6(00)

oe eg $1\frac{3}{5}$

B1

[2]

M6.(a) 600

B1

(b) 900 − 860 or 860 + 40 = 900 or 40

or

0.9 − 0.86 or 0.86 + 0.04 = 0.9 or 0.04

Condone 860 − 900

oe

Condone incorrect or missing units

M1

40 grams or 0.04 kg

SC1 940 g or 0.94 kg

A1

Additional Guidance
If you see 860 + 40 = 900 but then further work to build up to eg 1800, mark the whole method and the only mark available is the SC1.
Once 40 g or 0.04 kg seen, ignore any attempt to change units.
40 g seen in working but then 40 on ans line − condone. M1A1

[3]

M7. 5 miles = 8 km seen or implied

oe

B1

95 × their $\frac{5}{8}$

60 × their $\frac{8}{5}$

M1

59.(...) and yes

96 and yes

A1

Alternative Method 1

95 × 5 or 475

or 95 ÷ 8 or 11.875

60 × 8 or 480
or 60 ÷ 5 or 12

B1

95 × 5 ÷ 8

60 × 8 ÷ 5

M1

59.(...) and yes

96 and yes

A1

Alternative Method 2

95 × 5 or 475

or 60 × 8 or 480

95 ÷ 8 or 11.875
or 60 ÷ 5 or 12

B1

95 × 5 or 475

and 60 × 8 or 480

95 ÷ 8 or 11.875
and 60 ÷ 5 or 12

M1

475 and 480 and yes

11.875 and 12 and yes

A1

Alternative Method 3

95 ÷ 60 or 1.5...

or 8 ÷ 5 or 1.6

60 ÷ 95 or 0.63...
or 5 ÷ 8 or 0.62(5)

B1

95 ÷ 60 or 1.5...

and 8 ÷ 5 or 1.6

60 ÷ 95 or 0.63...
and 5 ÷ 8 or 0.62(5)

M1

1.5... and 1.6 and yes

0.63... and 0.625 and yes

A1

Additional Guidance

On alternative method 2 or 3, 11.875 can be 11.8(…) or 11.9

Throughout all methods students can use 2.5 and 4 in place of 5 and 8 for the first B1 (or 1.25 and 2, 10 and 16, etc – might be on the scale)

[3]

M8. Centimetres

B1

Litres

B1

Grams

B1

[3]

M9.(a) 500

B1

(b) 1200 (grams) seen or implied or values with a total of 1.2

Values must not exceed 0.8

M1

Values with a total of 1200

Values must not exceed 800

eg 300 × 4 or 800 and 400

A1

[3]

M10.

(a) Kilograms

Allow kg

B1

(b) Grams

Allow g

B1

(c) Litres

Allow l

B1

[3]

M11.

[4.6, 5.0]

B1 3 (× 1.6)

or

their 3 × 1.6 evaluated

B2

[2]

M12.

80 cm = 800mm
25mm = 2.5cm

Any valid use of a correct conversion

B1

their 800 ÷ 25 (× 3) (= 32)
80 ÷ their 2.5 (× 3) (= 32)

M1

96

A1

their 96 **and** No

*Correct decision from their 96 (**must** score M1)*

Q1ft

Alternative
80 cm = 800mm
25mm = 2.5cm

Any valid use of a correct conversion

B1

25 × 100 (= 2500)
and
800 × 3 (= 2400)
2.5 × 100 (= 250)
and
80 × 3 (= 240)

M1

2500 **and** 2400
250 **and** 240

A1

their 2500
and
their 2400
and No
their 250
and
their 240
and No

*Correct decision from their values (**must** score M1)*

Q1ft

[4]

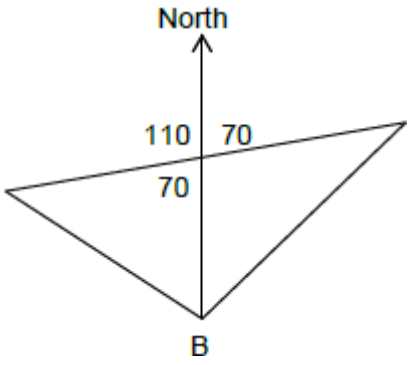
M13.

(a) 110 seen

May be on diagram

B1

70 **or** 110 clearly identified as one of the angles shown



*ft their **obtuse** 110*

Must be clear which angle is worked out (eg seen on diagram)

B1ft

070

*ft their **obtuse** 110*

Q0 70

Strand (i)

SC3 Answer 070

SC2 Answer 70

Q1ft

(b) $8 \times \frac{1}{4}$ **or** $8 \div 4$ **or** 8×15 (= 120)

oe eg $8 \times \frac{15}{60}$

M1

[1.99, 2]

A1

[5]

M14.

0.8 (kg)

B1

3000 × their 0.8 (= 2400)

M1

Their 2400 ÷ 750 (= 3.2)

750 × 3 (= 2250) ***or***

750 × 4 (= 3000)

M1Dep

4

A1

Alternative 1

750 000(g)

B1

3000 × 800 (= 2 400 000)

M1

Their 2 400 000 ÷ their 750 000 (= 3.2)

Their 750 000 × 3 (= 2 250 000) ***or***

Their 750 000 × 4 (= 3 000 000)

M1Dep

4

A1

Alternative 2

0.8 (kg)

750 000(g)

B1

750 000(g)

750 ÷ their 0.8 (= 937.5)

M1

Their 750 000 ÷ 800 (= 937.5)

3000 ÷ their 937.5 (= 3.2)

Their 937.5 × 3 (= 2812.5) ***or***

Their 937.5 × 4 (= 3750)

M1Dep

4

A1

[4]

M15.(a) 40 millimetres

)

B1

(b) 5 grams

B1

(c) 40 centilitres

B1

[3]

M16.(a) kilometres

B1

(b) litres

B1

(c) grams

B1

[3]

M17.(a) [158, 162]

B1

(b) 1.20(p) or 120p

ft their weight in (a)

B1ft

(c) 1.20 + 1.60 (= 2.80)

1.20 − 1.10 (= 0.10 or 10)

M1

1.10 + 1.40 (= 2.50)

1.60 − 1.40 = (0.20 or 20)

M1

£0.30 or 30p

SC1 2.30 (−) 1.90 = 40p oe

SC1 2 × 1.60 (−) 2 × 1.40 = 40p oe

SC1 2 × 1.20 (−) 2 × 1.10 = 20p oe

A1

(d) Attempts to build up to within 750 ± 100 with weights less than or equal to 500 (no total needed)

or

Subtracts from 750 with weights less than or equal to 500

oe 750 ÷ n with n a positive integer

M1

Shows two or more weights, less than or equal to 500, that total 750

eg 500 (+) 250 (= 750)

375 × 2 (= 750)

SC1 Shows two or more weights, with one more than 500, that total 750

A1

[7]