M1.

Alternative method 1

5 × 24.2 or 121 (miles)

M1

their 121 ÷ 32.3
or
[3.74, 3.75] (gallons)

M1

their [3.74, 3.75] × 4.5
or
[16.8, 16.9] (litres)

M1

their [16.8, 16.9] × 1.27

M1

[21.33, 21.47] and bus
Accept 21 and bus if working shown

A1

Alternative method 2

5 × 24.2 or 121 (miles)

M1

their 121 ÷ 32.3
or
[3.74, 3.75] (gallons)

M1

1.27 × 4.5
or 5.71(5) or 5.72

M1

their [3.74, 3.75] × their 5.71(5)

M1

[21.33, 21.47] and bus

Accept 21 and bus if working shown

A1

Alternative method 3

19.50 ÷ 5 or 3.9(0)

M1

24.2 ÷ 32.3
or
[0.74, 0.75] (gallons)

M1

their [0.74, 0.75] × 4.5
or
[3.3, 3.4] (litres)

M1

their [3.3, 3.4] × 1.27

M1

[4.19, 4.32] and 3.9(0) and bus

Accept 4 and 3.9(0) and bus if working shown

A1

Alternative method 4

19.50 ÷ 5 or 3.9(0)

M1

24.2 ÷ 32.3
or
[0.74, 0.75] (gallons)

M1

1.27 × 4.5
or 5.71(5) or 5.72
          £ per gallon

M1

their [0.74, 0.75] × their 5.71(5)

M1

[4.19, 4.32] and 3.9(0) and bus
      Accept 4 and 3.9(0) and bus if working shown

A1

[5]

M2.
1950 or 2049 or 1500 or 2499

M1

1500 and 2049
or
1950 and 2499
      Must be seen as a linked pair

M1

549
     SC2 550

A1
[3]

M3.
   32

            B1   4 or 16 or 0.5

                                                                   B2

                                                                      [2]

M4.(a)   24 (million) − 15 (million)

               Subtraction with one value correct

                                                                          M1

        9

               Condone 9 000 000

                                                                          A1

   (b)   30

               Condone 30 000 000

                                                                          B1

   (c)   28(%) **and** 20 (million) chosen

                     oe

                     Implied by correct answer

                                                                         B1

                    0.28 × their 20 **or** $20 \times \dfrac{\text{their } 28}{100}$

                     oe

                     their 20 can only be 15, 20, 24 or 26

                     their 28 can only be 12, 15, 28 or 45

                                                                           M1

        5.6

               Digits 56 on answer space implies B1M1

               Accept rounding to 6 after a correct answer is seen.

               Condone 5600000

SC2 4.2 or 6.72 or 7.28

A1

[6]

M5.
5

B1 for 25 or 5² seen
or any value in range (5, 5.92]

B2

[2]

M6.

(a) 2.17158…

B1

(b) 2.2

ft their answer to (a)

B1ft

[2]

M7.

(a) 80 − 74 or 6 seen

or $\frac{74}{80}$ (×100) or 0.925 or 92.5

M1

$\frac{\text{their } 6}{80}$ (× 100) or 0.075
or 100 − their 92.5
or 1 − 0.925
0.075 implies both method marks

M1dep

7.5

SC1 for 8.1(...)

A1

(b)   11.5 kg

                   Circled or indicated

                   B1

                   [4]

M8.(a)   5000 or five thousand

       or (5) thousand or five thousands

       or (5) thousands

                   B1

(b)   5300

                   B1

(c)   8543

                   B1

(d)   3485

                   B1

                   [4]

M9.20^2 and 9^2

   or 400 and 81

   or 319

              oe

                   M1

$\sqrt{20^2 - 9^2}$

or $\sqrt{400 - 81}$

or $\sqrt{319}$

M1dep

17.86…

A1

17.9

ft their 2 dp or more

B1ft

Additional Guidance

17.9 without working seen   M1 M1 A1 B1

17.86… without working seen   M1 M1 A1 B0

[4]

M10.(a)   25.11

B1

(b)   23585

B1

(c)   15.0665(…)

B1

Additional Guidance

Ignore any digits after the 4ᵗʰ decimal place

(d)   15.1

ft correct rounding to 1 dp

B1ft

Additional Guidance

7c must have at least 2 decimal places
Answer to part d is follow through or correct answer (may be a restart)

[4]

M11.(a)   (Car) C or 12 590

B1

(b)   13 400 or 17 900 or 12 600
        20 or 40 or 10

M1

13 400 and 17 900 and 12 600
        20 and 40 and 10

M1dep

17 860 or 17 900

or Car B
        40

A1

[4]

M12.(a)   17 000 000 × 1.8 (= 30 600 000)
        30.6 million

M1

3.06×10^7 or 3.1×10^7
        Strand (i) Correct notation
        Accept 3×10^7 with method seen
        Condone 3.06 (or 3.1) $\times 10^1$ million
        SC1 any value changed correctly to standard form
        SC1 $9.4(…) \times 10^6$

Q1

(b) $(5.6 \times 10^{11}) \div 17\ 000\ 000$ *oe*
            560 000 000 000 ÷ 17 000 000
            or $(5.6 \times 10^{11}) \div (1.7 \times 10^{7})$

                                                                                    M1

        32941.(…)
            May be implied by 30 000, 33 000, 32900 or 32940

                                                                                    A1

        30 000 or 33 000
            oe
            ft any value > 2sf rounded to 1 or 2 sf
            SC1 3.(0) $\times 10^{-5}$ or 0.00003(0)

                                                                                    B1 ft
                                                                                    [5]

M13.(a)   3.6

                                                                                    B1

(b)   0.325   0.5   0.62

                                                                                    B1

(c) $\dfrac{4}{5}$ and 80%
            *B1 for one correct (and one incorrect) or for two correct and
            one incorrect*
            Any indication

                                                                                    B2
                                                                                    [4]

M14.(a)   21 + 20 + 29 + 22 + 24 or 116
            Allow one error or omission

M1

their total ÷ 5
> *Condone 21 + 20 + 29 + 22 + 24 ÷ 5*

M1

23.2
> *May be implied*

A1

23
> *ft any decimal seen that is correctly rounded*

B1ft

(b)   9

B1

(c)   Agrees **and** Chris' mean is 23

Agrees **and** Chris' total is 116 and Tommy's total is 150
> *Strand (iii)*

or

> *eg Tommy scored 150 runs which is more than Chris*
> *eg True as all Chris' scores are under 30 ft their mean or*
> *total from (a)*

or

Correct **comparative** comment on means or total runs

Q1ft

(d)   Agrees and Chris' range is 9
> *Strand (iii)*

or

> *eg Chris had a lower range so he was more consistent*

Correct **comparative** comment about the range

ft their range from (b)

Q1ft

[7]