M1.

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

or 1kg = 1000g seen or implied

oe fraction
eg 3000 or 0.18 seen

B1

$$\frac{3}{50}$$

B1ft

[2]

M2.(a)   Shades 12 squares

B1

Additional Guidance

Mark intention, positive marking

(b)   Identifies $\frac{2}{5}$ and $\frac{8}{20}$

B1 for one correct
or one correct and one incorrect
or two correct and one incorrect

B2

[3]

M3.

112 ÷ 210

112 ÷ 210 × 100

M1

132 ÷ 240

132 ÷ 240 × 100

M1

0.53…. **and** 0.55

*53… (%) **and** 55(%)*

A1

Their 0.53…. **and** their 0.55 **and** Year 11

*Their 53….(%) **and** their 55(%) **and** Year 11*
Strand (iii)
M2 and correct decision for their decimals or percentages

Q1

Alternative 1
210 ÷ 112

210 ÷ 112 × 100

M1

240 ÷ 132

240 ÷ 132 × 100

M1

1.875 **and** 1.8(18…)

*187.5(%) **and** 181.8…(%)*

A1

Their 1.875 **and** their 1.8(18…) **and** Year 11

*Their 187.5(%) **and** their 181.8…(%) **and** Year 11*
Strand (iii)
M2 and correct decision for their decimals or percentages

Q1

Alternative 2
(210 – 112) ÷ 210

(210 – 112) ÷ 210 × 100

M1

(240 – 132) ÷ 240

(240 – 132) ÷ 240 × 100

M1

0.46…..(or 0.47) **and** 0.45

*46….(%) (or 47(%)) **and** 45(%)*

A1

Their 0.46…..(or 0.47) **and** their 0.45 **and** Year 11

*Their 46….(%) (or 47(%)) **and** their 45(%) **and** Year 11*

Strand (iii)
M2 and correct decision for their decimals or percentages

Q1

Alternative 3
210 ÷ (210 – 112)
> *210 ÷ (210 – 112) × 100*

M1

240 ÷ (240 – 132)
> *240 ÷ (240 – 132) × 100*

M1

2.1(4…) **and** 2.2(2…)
> *21.4…(%)* **and** *22.2…(%)*

A1

Their 2.1(4…) **and** their 2.2(2…) **and** Year 11
> *Their 214.(…) (%)* **and** *their 222.(…) (%)* **and** *Year 11*
> *Strand (iii)*
> *M2 and correct decision for their decimals or percentages*

Q1

Alternative 4
$\frac{112}{210}$ **and** $\frac{132}{240}$

M1

Equates denominators with at least one correct numerator

M1

$\frac{32}{60}$ **and** $\frac{33}{60}$
> *oe* $\frac{16}{30}$ **and** $\frac{16.5}{30}$

A1

Their $\frac{210}{112}$ **and** their $\frac{240}{132}$ **and** Year 11
> *oe*
> *Strand (iii)*
> *M2 and correct decision for their fractions*

Q1

Alternative 5
112 : 210 **and** 132 : 240

M1

Equates one side of ratio with at least one correct on other side

$$1 : \frac{210}{112} \text{ and } 1 : \frac{240}{132}$$

$$\frac{112}{210} : 1 \text{ and } \frac{132}{240} : 1 \text{ oe}$$

M1

16 : 30 **and** 16.5 : 30

oe

A1

Their 16 : 30 **and** their 16.5 : 30 **and** Year 11

Strand (iii)

M2 and correct decision for their ratios

Q1

Alternative 6
112 : (210 – 112)
and 132 : (240 – 132)

M1

8 : 7 **and** 11 : 9

M1

72 : 63 **and** 77 : 63

oe

A1

Their 72 : 63 **and** their 77 : 63 **and** Year 11

Strand (iii)

M2 and correct decision for their ratios

Q1

Alternative 7
210 : (210 – 112) **and**
240 : (240 – 132)

M1

15 : 7 **and** 20 : 9

M1

135 : 63 **and** 140 : 63

oe

A1

Their 135 : 63 **and** their 140 : 63 **and** Year 11

Strand (iii)

M2 and correct decision for their ratios

Q1

[4]

M4.(a)   7 + 8 or 15

                                                 M1

$\dfrac{15}{20}$

           May be implied

                                                 A1

$\dfrac{3}{4}$

           ft their fraction siimplified to lowest terms

                                               B1ft

(b)   8 + 1 or 9 seen or implied

                                               M1

$\dfrac{9}{20}$ *oe*

               SC1 $\dfrac{11}{20}$ *oe*

                                             A1

                                             [5]

M5.   (a)   120 − 97 or 89 − 70 + 31 − 27

                    oe   or 19 or 4 seen

                                           M1

      23

           SC1 answer 46

                                           A1

(b)   15

for Wednesday

B1

24

for Thursday

B1

(c) $\dfrac{30}{120}$ seen

     oe   fraction, decimal, percentage

M1

$\dfrac{1}{4}$

SC1 $\dfrac{15}{43}$

SC1 *any seen fraction correctly cancelled to simplest form*

A1

(d) $\dfrac{50}{150}$ or attempts to make a comparison

     Seen or implied

M1

$\dfrac{1}{3}$ or $\left(\dfrac{1}{4}=\right)\dfrac{50}{200}$ or both values correct in appropriate comparison

     Fraction/decimal/percentage

A1

Their yes with fractions with either same numerator (oe)
or same denominator
or with both values as decimals or both values as percentages
or appropriate diagrams

     Strand (iii)

     Supporting answers with explanations and evidence

ft their $\dfrac{1}{4}$ *from 3c and their* $\dfrac{1}{3}$

Q1

Alternative method

$$\frac{150}{4}$$

May be implied by diagram

M1

37.5

A1

Yes (50 > 37.5)

Q1

[9]

M6.   Attempts to process one piece of information

eg *2 : 9 or 4 : 16*

0.22… or 0.25

$$\frac{6}{27} = \frac{2}{9} \quad or \quad \frac{8}{32} = \frac{4}{16}$$

$$\frac{6}{27} \times 100 \quad or \quad \frac{8}{32} \times 100$$

$$\frac{24}{108} \quad or \quad \frac{24}{96} \quad \frac{192}{864} \quad or \quad \frac{216}{864}$$

or 8 goals in 32 games is 1 goal every 4 games

$$4\frac{1}{2} \quad or \quad 4$$

oe

M1

Writes both pieces of information in a form that allows for comparison

eg *2 : 9 and 2 : 8*

0.22 … and 0.25

(1 : 4.5 and 1 : 4 are acceptable)

$$4\frac{1}{2} \quad and \quad 4$$

$$\frac{2}{9} \quad and \quad \frac{2}{8} \qquad \frac{24}{108} \quad and \quad \frac{24}{96}$$

$$\frac{8}{36} \quad and \quad \frac{9}{36} \qquad \frac{192}{864} \quad and \quad \frac{216}{864}$$

oe

A1

Correct decision from their working

Strand (iii) Dependent on M1

Q1

[3]

M7.   (a) $\frac{3}{10}$

B1 equivalent fraction to $\frac{3}{10}$ *eg* $\frac{5}{50}$

or

B1 $\frac{n}{50}$ *with its correct simplest form*

B2

(b)   At least one product attempted or one correct value (not 0 or 8)

0×13
1×8
$2 \times 6 \ (= 12)$
$3 \times 8 \ (= 24)$
$4 \times 15 \ (= 60)$

M1

5 products attempted and added

Allow 4 products if 0 not shown

M1 dep

104

oe   eg 4 more
SC2   117

A1

[5]

M8.   (a)   (i)   4, 3, 12, 9

                      B1 three correct

                                                   B2

           28

                  ft frequencies or correct from tallies

                                                   B1 ft

       (ii) $\dfrac{\text{their } 4}{\text{their } 28}$

                  oe

                                                       B1 ft

$\dfrac{1}{7}$

                  ft correct cancelling of any fraction

                                                   B1 ft

     (b)   Symbol represents 2 birds

                                                       B1

       Correct number of symbols for

       blackbird   (3)

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

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

                  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 ÷ 500 000 or   their 8 000 000 ÷ 500 000
                  oe   eg 8 ÷ 0.5
                  Digits 16 implies M1

M1

16
                  ft their 8 000 000 in digits

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

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

[14]

M9.   (a)   1.99 × 6   or   199 × 6 (= 1194)

M1

11.94
              SC1   119.40
              SC1   12 (.00)

A1

(b) $\dfrac{1}{2}$

> *B1   equivalent fraction to* $\dfrac{1}{2}$ *eg* $\dfrac{30}{60}$
>
> *or B1* $\dfrac{n}{60}$ *seen with its correct simplest form*
> *SC1   50%*
> *SC1   0.5*
>
> **B2**

(c)   10% circled
> *Any clear indication*
>
> **B1**

(d)   Questionnaire/survey/interview
> *oe   telephone everyone*
>
> **B1**
>
> **[6]**

2